

THE
BRITISH JOURNAL
OF
CHILDREN'S DISEASES.

VOL. VIII.

FEBRUARY, 1911.

No. 86.

Original Articles.

NOTES OF FOUR CASES OF HEREDITARY SYPHILIS
TREATED BY EHRlich-HATA'S "606."

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THE remarkable success observed in the treatment of syphilis by Ehrlich's new specific is not confined to the acquired disease. A large number of cases of congenital syphilis have been treated in continental clinics, and I now report four treated at the London Hospital. Three of the patients were young infants, and one was a lad, aged 15 years. Of the three infants, two were treated by injecting the mothers who were suckling them, and the other was injected directly.

CASE 1.—Male child, L. L—, aged 2 weeks, was admitted to the London Hospital on October the 14th, 1910. No history could be obtained, as the mother was at home dangerously ill after her confinement. The infant was in an apparently hopeless condition, with an extensive bullous eruption on the body and extremities. The epidermis peeled off the palms and soles, and large sheets were exfoliated from the trunk. The scalp was covered with impetiginous crusts. The eyelids were acutely inflamed and œdematous. Snuffles rendered feeding very difficult. The child suffered from constant diarrhoea, and was extremely wasted. It did not seem possible that it would survive.

An injection of 0.02 grm. of "606" was injected deeply into the

right buttock on October the 14th. The injection was followed by considerable pain and swelling of the part. On October the 17th, three days after the injection, the redness of the skin had almost disappeared and the bullæ had dried up. The child was obviously better in its general condition. The next day there were a few red spots left, the diarrhœa had ceased and the child began to increase in weight.

On October the 31st the child was plump and apparently quite well. On that day, as so small a dose of the drug had been given it was decided to give a further injection, and 0.06 grm. was given subcutaneously in the right scapular region. The child's general health continued to remain good, and it is quite well to date.

The only ill-effects were local, the sites of the injections being red, swollen and tender. There was a little sloughing about the site of the first injection, which was believed to be due to the irritation of the excreta. This soon healed under simple dressings. The site of the second injection suppurated, and a few drops of sterile pus were evacuated on November the 9th. The small sinus left by the abscess healed entirely by the beginning of December.

CASE 2.—Male infant, R. H—, aged 4 weeks.

The child and the mother were admitted to the London Hospital on October the 14th, 1910.

The mother, aged 28 years, had had two healthy children, but no miscarriages. Her last child had died four years and a half ago. Two years ago she suffered from a generalised eruption, which lasted for nearly a twelvemonth. Her husband also had a rash about the same time. No history could be obtained from him, but his answers to inquiries were highly suspicious. The mother on admission to the hospital had no symptoms of syphilis, and her blood gave a negative Wassermann reaction. She was suckling her infant.

The infant was healthy at birth, but on the fourth day "blisters" appeared on the palms and soles. When admitted to the ward there was a characteristic bullous eruption on the palms and soles, and patches of erythema with scales upon the face and lower abdomen, and snuffles. The liver and spleen could not be felt. The child had had six inunctions with ung. hydrarg. before admission, one fourth of a drachm of the ointment being rubbed into the belly and covered with a flannel binder.

The mother was given an intra-muscular injection of 0.5 grm. of "606" in neutral suspension into both shoulders. There was very little pain, and a slight rise of temperature (101.6° F.) on the second day with coryza, etc., was attributed to a "cold."

The effect of the injection upon the baby was remarkable. On October the 17th, three days after, the rash had almost entirely disappeared, and the blebs had dried up. On the 21st the child was in excellent general condition, and every spot had disappeared by October the 28th. The child has remained quite well to date.

CASE 3.—Male, T. O—, aged 1 month.

The child and its mother were admitted to the London Hospital on November the 22nd, 1910.

The mother, aged 34 years, has two other living children, aged respectively 11 and 6 years. Three children have died from measles, and one from congenital syphilis. She also had one miscarriage six years ago. At the time of this miscarriage she had a skin eruption which she described as looking "like measles." She had no symptoms of syphilis on her admission, but gave a positive Wassermann reaction. She suckled her infant.

The infant developed a rash at the end of the third week after birth, but had had snuffles for at least two weeks before the eruption appeared. On admission there were bullæ on the palms and soles. There were scattered dull red spots and patches of erythema on the lower part of the trunk and on the face. There was a superficial ulcer upon the right wrist. The child was shrivelled and wasted. The spleen and liver were not obviously enlarged.

The mother was given an injection of "606" in alkaline solution into the right buttock on November the 22nd. On November the 25th, three days later, the infant's skin had greatly improved, the erythema had diminished and the bullæ were dry. The ulcer on the wrist healed in twenty-four hours. On November the 30th the child was plump and well, the snuffles had gone, and it was made an out-patient. It has remained quite well to date.

CASE 4.—Male, W. W—, aged 15 years.

This is one of the rare forms of congenital syphilis in which there is grave destruction of the nose and upper lip.

The patient's father and mother are in good health; there is no history of actual syphilitic manifestations in either. There are five other children in good health. There have been no miscarriages. The boy's history was given as follows: He had "enteric fever" when two years old; from that time he has suffered with his eyes and his vision has been getting gradually worse, and on admission he was almost blind. He breathed through his mouth, and was very deaf. Six years ago "pimples" appeared on the upper lip and gradually spread to the cheeks and nose. They broke down, and on his admission to the ward there was a large ulceration covered with

massive crusts on both cheeks, nose, and upper lip. The upper lip was much thickened. The nose was very flat at the root and discharged a great deal of rather offensive muco-pus. He had chronic interstitial keratitis of both eyes, and also some phlyctenular ulcers on the left. He had chronic middle-ear disease on both sides, with many granulations, and the internal ears were also affected.

The Wassermann reaction was completely positive.

On August the 10th he was given 0·1 grm. of "606" in neutral suspension, injected into the right shoulder. Two days later he had 0·2 grm. injected into the right buttock. Within forty-eight hours of the first injection the ulceration of the face had much improved. On August the 15th the lip was distinctly less swollen, and the boy volunteered the information that he could see better. This, however, was not confirmed by the test-types. The nasal discharge ceased, and on August the 17th he could breathe through his nose.

The improvement was maintained, but as there had been little recent progress a fresh injection of 0·2 grm. of the drug was given in the left shoulder on November the 25th. The cutaneous condition improved still more, and the contracting scar led to slight ectropion of the lower lids. The swelling of the lip diminished. By the end of November it was certain that the hearing and sight had improved. The boy could hear the normal voice, and he was able to recognise people and find his way about without difficulty. Of course, his long residence in the ward may have counted for some of this improvement.

On December the 1st the keratitis was more marked in the left eye, and there was fresh opacity in the lower part of the cornea. The next day he had another injection of 0·3 grm. into the right buttock. The scar margin became very red, and the ciliary region of the eye became injected (Herxheimer's reaction). Three days later the face had resumed its normal colour and the eyes gradually cleared.

The Wassermann reaction has remained completely positive throughout, but on quantitative examination it is gradually diminishing.

The local reactions were variable. It was only once necessary to give morphia, and that was after the last injection. There was slight pyrexia after each, but the temperature never exceeded 100° F. Vomiting occurred after the last injection.

It appears very doubtful whether much more improvement is to be expected in this case. The cutaneous and intra-nasal lesions have been healed for several months. The ocular and aural conditions have improved slightly, and the present state is more due to cicatricial changes than to actual inflammation.

The histories of these four cases show the efficacy of the new remedy. The first case is the most striking. The child certainly appeared likely to die. The eruption had involved almost the whole surface of the trunk by the second week after birth, and the skin exfoliated all over the body and limbs. The injection here was direct, and in grave cases I think this method is to be preferred to the treatment of the mother. Here we were unable to treat the mother, as she was too ill to leave her bed. The cases treated through the mother are of great theoretical interest, especially Case 2. Here the mother gave a negative Wassermann reaction throughout, although she had had undoubted syphilis two years before, and her infant was certainly syphilitic. Are we to suppose that she was able to develop sufficient antibody to be excreted in the milk, and yet gave no Wassermann reaction? Or, on the other hand, is there sufficient of the "606" excreted in the milk to cure the infant? According to some observers there is little, if any, arsenic excreted through the milk.

As to the permanency of cure, we are too early in the work yet to be dogmatic about this. It is impossible to obtain sufficient blood from young infants to test the Wassermann reaction. In the lad the reaction still remains positive, and this is said to be the case as a rule in congenital syphilitics. But of this, again, we have not sufficient experience.

I have to acknowledge my indebtedness to Dr. Bulloch for the use of "606" in these cases, to Drs. Fildes and McIntosh for the care with which they have carried out the treatment, and to my clinical assistant, Dr. Neligan, for the notes of the cases.

PYLORIC STENOSIS IN INFANCY.

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WITH REMARKS ON THE INDICATIONS FOR OPERATIVE TREATMENT.

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PYLORIC stenosis in infancy was first described by Hirschsprung (1) in a lecture which he delivered before the German Pædiatric Society at Wiesbaden in 1887. He was quickly followed by Finkelstein and others, who communicated further observations and cases upon

this interesting condition, but it was not until ten years later when surgeons began to treat the disease that the therapeutic indications became a subject of lively controversy, a controversy which has continued up to the present day.

In 1898 Pfaundler (2) first suggested that there were two distinct types of the disease, the one a true, organic, congenital stenosis, the other a condition in which pyloric spasm is from some cause or other first induced, and that this eventually leads to hypertrophy of the organ with stricture of its lumen.

This view is the one generally held at the present day, but whether in an individual case we are dealing with the congenital or the spasmodic type can be rarely determined with certainty, except that the severity and early appearance of the symptoms and the duration of the pathologic process may suggest a suspicion of an organic basis.

The six cases upon which this note is based, of which as many as five are boys and only one a girl, show a surprising uniformity in their symptoms. The children were all apparently healthy born and with one exception were all breast fed, and they all, without apparent cause, began to vomit during the first few days or weeks of life; in one case, the only one that was bottle fed, the vomiting commenced on the second day, in the other five it commenced between the second and the fourth week. It was at first only occasional but soon became more frequent, and occurred either immediately after a feed or half an hour or so later. When the stomach had become dilated it was not unusual for two or three consecutive feeds to be retained, and then without warning for a surprising quantity to be ejected at one vomit, looking as if shot out from a pump. The vomiting resisted all the usual methods of treatment, occurred suddenly and without nausea, and, as already described, was not infrequently projectile in character. The vomited matter consisted of food mixed with mucus, was free from bile, and was often extremely acrid, due probably to the presence of hydrochloric and lactic acids.

As a result of the vomiting the next symptom, namely constipation, soon made its appearance and was present in all six cases. The number and amount of the evacuations were considerably reduced and the bowels seldom acted without aperients or enemata. In cases of severe stenosis the stools contain practically no faecal matter; they are offensive, and either dark brown or olive green in colour, not unlike meconium or green paint, or on the other hand they may be dry and lumpy and similar in appearance to small

black balls or coffee-beans. Examination of the stools reveals epithelial *débris*, intestinal secretions, altered bile and occasionally blood. As a further consequence of the vomiting the general condition of the infants soon showed progressive atrophy; the face assumed a senile appearance, the fontanelle became depressed and the eyes sunken, the skin inelastic and wrinkled and the temperature subnormal. The loss of weight is usually slow but may on occasion become exceedingly rapid.

The physical signs in all the cases were just as characteristic as the symptoms. On inspection of the abdomen it was at once noticed that the hypogastric region, owing to the emptiness of the intestines, was sunken, whilst the gastric region, from the dilatation of the stomach, was full and prominent. The dilatation was well demonstrated in one case by the X rays after a bismuth feed, and I feel that in the future repeated examination by this method will help us considerably in determining not only the extent of the stenosis, but also whether the results of the measures adopted for its relief are such as to justify the continuance of treatment by medical means alone.

The next sign, visible peristalsis, is a very important one and is rarely absent; it was present in all my cases, and if there is any difficulty in demonstrating it the wave can usually be induced by either giving the infant a feed or by gently stroking or tapping the abdominal wall in the epigastric region. The stomach then at once becomes more prominent, and peristaltic waves resembling two balls are seen to follow one another in a transverse and somewhat oblique direction from left to right across the abdominal wall. The peristalsis causes no pain, and is present during sleep as well as when the infant is awake.

The third and last sign is that of a palpable tumour in the pyloric region, which, when present, is very significant. It was distinctly felt in four of my cases as a small, hard, oval mass about the size and shape of a filbert, half an inch to an inch above, and a little to the right of the umbilicus; in some cases it can be felt best during the peristaltic movements, and for its demonstration careful and deep pressure must be made in the region indicated.

Anatomy and pathogenesis.—The necropsy reports of various authors, including Hirschsprung, Bendix, Finkelstein, Thomson, Pfaundler and others have established beyond doubt that in the infants who have succumbed to the disease there is an anatomical foundation as the cause of the symptoms. The pylorus is found as a coarse, hard, cylindrical tumour, about an inch long and an inch

in circumference, separated externally from the pyloric vestibule by a shallow groove and internally by step-like elevations. The lumen of the organ may admit only a bristle, or may be as large as a medium-sized probe, or even a lead pencil. The stomach is enlarged, and the wall, especially the muscular coat, considerably thickened; the hypertrophy of the pylorus is found chiefly to affect the circular muscular fibres.

Many theories have been suggested to explain the nature and genesis of this affection; in the first place there are those who believe there is no organic hypertrophy, that there is no increase in tissue formation, no stenosis, and that the stomach is entirely normal. Others, again, believe that the hypertrophy is organic and due to increase in tissue formation, and further, that the hypertrophy is a primary congenital condition which generates stenosis and secondary spasm. Cautley explains it as being a simple excess of new tissue due to an attempt of Nature to produce a sufficient closure of the pylorus, whilst Löbker and others assert that there is real tumour formation, leiomyoma or fibromyoma. Others believe that the hypertrophy is secondary to some disease originating *in utero* or after birth. Thomson speaks of it as being the result of primary spasm due to a nervous disturbance of the co-ordination activity of the gastric and pyloric muscles, and that this nervous inco-ordination is even produced *in utero* by the continuous absorption of liquor amnii.

Pritchard, again, considers the spasm is due to fissure, erosion or dyspepsia, whilst Knöpfelmacher and Freund have demonstrated the presence of hyperchlorhydria, which they believe to be the primary cause of the spasm.

Treatment.—It is not for some days or even longer that a positive diagnosis of pyloric stenosis can be made; at first the disturbance is supposed to be due to gastric indigestion, and the condition is treated on this supposition. When once the diagnosis of stenosis has been established our first object should be to find, if possible, a food that will agree with the infant; and as breast-milk is as a rule the best, it should, when possible, always be given, and every endeavour should be made to keep the milk secretion active. This is particularly important in cases when the vomiting is severe and in which it is advisable to abandon breast-feeding for a day or so and substitute for it sterile or albumin-water. If it is impossible to obtain the mother's milk or that of a wet-nurse, then sterile water with 6 per cent. lactose, one ounce every hour for twenty-four hours or longer, should first be given; to this peptonised or

citrated milk, beginning with a teaspoonful to each ounce, may gradually be added, and as the vomiting becomes less the quantity of milk and the intervals between the feeds may be slowly increased until the infant is taking that amount of nourishment which its weight and age demands.

Mechanical treatment.—If the vomiting is frequent, for the first few days the stomach should be thoroughly washed out with warm water night and morning, and if improvement follows—which is almost invariably the case—it should be continued at least once a day for a couple of weeks or even longer, after which time it can, as a rule, be gradually discontinued. If the infant is much exhausted and the fontanelle depressed I administer in addition continuous saline *per rectum*, and I am firmly convinced of the great benefit which results from both these methods of treatment. The gastric lavage by the removal of mucus and fermenting material tends to diminish the spasm, whilst the salines supply the body with much-needed fluid and encourage the elimination of waste products by the kidneys.

The value of both these methods is well illustrated in the case of a baby boy, aged 5 weeks, whom I saw with Dr. Seymour Davies, and in whom the vomiting had commenced when four weeks old. He was much wasted and in a collapsed condition, with sunken fontanelle. Continuous saline was at once commenced, and continued, with occasional intermissions, for some days. At the same time, as the vomiting was very frequent, all milk was stopped, and he was given sterile water in teaspoonful doses, to every six ounces of which one teaspoonful of panopepton and one teaspoonful of brandy were added. This arrested the vomiting for a time, but on its recurrence twenty-four hours later stomach lavage was commenced, and the results were so beneficial that it was continued without intermission for some weeks. The weight, which on June the 28th was only 5 lb. 15 oz., had increased by July the 9th to 6 lb. 8 oz.; on August the 4th to 8 lb. 2 oz.; and on October the 2nd to 14 lb. 1 oz.

With regard to medicinal treatment, opium or atropin, both of which have a specific relaxing effect upon the spasm, may be given in small doses, and with them an alkali, on the assumption that there is hyperacidity, may be combined with advantage. Bendix's formula consists of carbonate of magnesia ʒj, tincture of opium ℥vj, and water to three and a half ounces, and of this a small teaspoonful is given after each feeding. Purgatives should be avoided.

In the opinion of some authorities, more especially in Germany,

the results of medical treatment are so highly satisfactory that an operation should practically never be undertaken, whereas in the experience of others medical methods have proved so disappointing as to make them consider that the surgeon's help should be sought at the earliest possible moment. Of the five cases of my own that have been treated medically two have recovered, two are still under treatment, but are progressing favourably, and one has died. This last was a most disappointing case, for after showing steady improvement and gaining a pound in weight in a month, it died suddenly from heart failure or from some other cause which I have been unable to determine. Of the cases still under treatment, one, also a boy, who was referred to me by Dr. J. H. Clarke, of Whitchurch, well illustrates the rapidity with which improvement is manifested in cases suitable for medical methods. He was healthy born, weighing $6\frac{1}{2}$ lb., and breast fed until a month old, when the vomiting commenced; barley-water and milk, peptonised milk, Allenbury, Neave's food, Benger and albulactin were all successively tried, and after each change of diet there was improvement in the symptoms for a few days, but the vomiting soon returned, and when seen by me on September the 26th it was very frequent, the vomited matter being sour, watery, and free from bile. The stools were dark green, scanty and infrequent, there was a well-marked peristaltic wave and the pylorus could be distinctly felt. Stomach washing was immediately commenced, and in addition he was given a small dose of opium combined with an alkali after each feed. Improvement was at once noted, the vomiting, although it did not cease entirely, became less frequent, so that in a few days he was able to digest feeds consisting of two ounces of citrated milk with an equal part of water and a teaspoonful of lactose, and at the same time the bowels began to assume a more normal colour and to be moved without the usual enema. On October the 10th he had gained six ounces, the stools were yellow, and there was an occasional vomit, but by the 25th the vomiting had entirely ceased, the stools were regular and a good colour, and the infant was reported to weigh 8 lb. 14 oz.—a gain of exactly 2 lb. in twenty-nine days.

Of ninety-one cases reported by Bendix (3), Bloch (4), Heubner (5), Hutchison (6), and Stark (7) as many as 83, or 91·2 per cent., have recovered under medical treatment, but against these there are 106 cases reported by Cautley (8), Thomson (9), Still (10), and the Great Ormond Street Children's Hospital (11), of which only 20, or 18·8 per cent., have recovered without surgical interference. It is difficult to explain the wide discrepancy between these figures, but

from those of Hutchison and the German School it is obvious that a large number of cases do make a satisfactory recovery when treated by medical methods. From a somewhat limited experience I am strongly of opinion that every case, however severe the symptoms, should first be allowed a thorough trial on the lines of treatment that I have suggested. Should such measures not be followed by improvement, which is indicated by cessation of the vomiting, improvement of the colour and character of the stools, and most important of all by a gain in weight, the services of the surgeon should be called for, and that, too, before the infant has become so weakened, collapsed and emaciated as to render any form of treatment almost, if not entirely, hopeless. Lastly I would draw especial attention to the fact that during the past few months, in addition to five of the cases upon which this note is based, I have seen two others under the care of my colleagues at the Hospital; it would therefore appear that the disease is not so uncommon as is generally supposed and that many cases must in the past have escaped recognition. It has such a well-defined symptomatology and such characteristic physical signs that its diagnosis should be an easy matter, and very few cases will in the future escape if a careful and prolonged inspection of the abdomen is made in every infant in whom an obstinate constipation and progressive loss of weight are associated with the frequent and projectile vomiting which is so characteristic of this disease.

INDICATIONS FOR SURGICAL TREATMENT.

No explanation possessing a satisfactory basis other than that of muscular hypertrophy consequent upon spasm has yet been offered for this interesting and important lesion. Whatever further investigation may show with regard to its aetiology the morbid anatomy is definitely established.

The circular fibres at the pylorus show hyperplasia; they are increased in number and are also stouter than normal. This change can be seen very clearly with the naked eye, and is so marked in many cases that it presents as a tumour when the abdomen is examined with the hand. As a result of this massive overgrowth of muscle the pyloric orifice is narrowed to minute dimensions, and apart altogether from any condition of spasm of the hypertrophied muscle, we have a mechanical obstruction to the onward passage of the stomach contents. Looking at these specimens one would suppose that even if medical measures were successful in allaying spasm

there would remain in some, at any rate, a sufficient obstruction to render the passage impermeable.

The lesion is a unique one ; we know of no morbid condition in the body dependent upon the hypertrophy of a sphincter which reaches such a degree that the hypertrophied muscle becomes a mechanical obstruction to the passage.

There is, however, one other condition met with in childhood which has some resemblance to this. The condition to which I refer is idiopathic dilatation of the colon. In some instances of the latter no other explanation of the dilatation has been forthcoming except the obstruction offered by sphincter over-action.

We are, however, more in the dark as to its ætiology and morbid anatomy than we are in regard to pyloric stenosis, and the analogy requires only a passing notice. I have already said that the examination of some specimens suggests that even if spasm is subdued the lumen of the pylorus would remain for a considerable period so narrow as to prevent the passage of sufficient food for nourishment. This deduction from the pathological anatomy is borne out by clinical observations. A large proportion of these children respond to medical measures to such an extent that it is found possible to feed them sufficiently.

On the other hand, a certain percentage do not respond sufficiently for this to be carried out, and in any given case the question can only be decided by experiment. It is agreed that the first duty on coming in contact with a case is to give sufficient trial to medical measures. Fortunately the question can usually be decided in a short time whether these measures are going to be successful or not. In many cases dieting and lavage produce a rapid change, and there is, therefore, no need for spending many days on making up one's mind whether they are going to be successful or not. The test of success is the disappearance or diminution of vomiting, but a more important test still is the day-to-day weighing of the infant. So long as weight is sustained, even though there may be no increase, I should consider perseverance with medical measures justifiable. On the other hand, if weight is lost it points to the fact that the hyperplasia is of such a degree that even with spasm allayed no sufficient amount of food can be passed through the narrowed pylorus.

How long are we to wait before settling the question ? Generally speaking, I think a period of seven to ten days is long enough to show definitely whether medical measures are going to achieve their purpose. If, however, there is no amelioration at all and progress

is still downhill, there is no reason why we should not shorten this period. I am assuming that the condition from which the infant is suffering is recognised at an early stage; an infant reduced by weeks of constant vomiting is an entirely unpromising subject for a serious surgical operation, and last-resource operations only bring surgical treatment into discredit.

It has been suggested by one writer that a period of from three to six weeks should be looked upon as the time necessary to judge whether operation should be performed or not; in my opinion this period is much too long for general application. Most surgeons would wisely decline to operate on an infant of a few weeks old who had passed through three or six weeks of unsuccessful medical treatment. The difficulty of deciding on operation has, I think, been exaggerated. There must come a period in the use of lavage and dieting when the surgeon can form an estimate as to whether things are going well or ill. Nor is there any mystery about the symptoms and signs of the affection. The vomiting and the fluctuations in weight are phenomena as to which a nurse can keep an exact record.

A case in which I was associated with Dr. Harris and Dr. Marsh will serve to illustrate the indications for operation. The child was a male, born of healthy parents, and weighed at birth 9 lb. When three weeks old he weighed 9 lb. 15 oz., having been nursed by the mother. At this time vomiting first began and assumed the characteristic type. When seen at the age of five weeks and three days the child looked ill, there was constipation, vomiting was constant, and a typical peristaltic wave could be seen crossing the epigastrium from left to right; a distinct induration could be felt just at the right of the middle line, which appeared to be a thickening of the pylorus. For the next three days lavage was carefully carried out; the child had been nursed by a wet-nurse since the age of three weeks, and this was continued. In spite of these measures he lost weight rapidly; on the third day he lost 9 oz. There being no amelioration of symptoms and the loss of weight being rapid, it was decided that an operation should be performed. This was done on September the 6th, and took the form of a posterior gastro-enterostomy. Rectal saline subsequently was administered continuously, and he was allowed three-minute feeds eight hours after the operation was completed. Vomiting ceased except for three attacks on September the 7th, which did not resemble the previous attacks, the vomited matter consisting of small quantities of brownish stained fluid. On the third day after opera-

tion he had gained 5 oz., on the eleventh day 10 oz., and at the seventh week the total gain in weight had reached 3 lb. The decision to operate in this case was based on the rapid loss of weight and the failure of medical treatment to produce any amelioration in the symptoms.

The period of trial of these measures was short, for the reason that, as I have already stated, if they are going to be successful improvement is to be looked for almost at once, and if this does not occur a delay is not only useless but prejudicial to the chances of recovery.

With regard to the type of operation for this condition a surgeon naturally chooses that which he thinks will give a good functional result and which he can perform most rapidly. The method of pyloroplasty advised by Mr. Nicholl is a well-conceived procedure, but would take considerably longer than gastro-enterostomy to one who is accustomed to the latter operation.

I have no personal experience of Nicholl's operation, but should think that the hypertrophied pylorus offers unsatisfactory material for the application of sutures. Posterior gastro-enterostomy has proved its advantages as a method of dealing with stenosis of the pylorus in general; it is a little less simple than the anterior operation, but not so much so as to outweigh its other advantages. Scudder (12) has recently recorded a series of eight cases treated by himself by this procedure which supports the claims of the operation to be looked upon as the method of choice.

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GENESIS OF HYSTERICAL STATES IN CHILDHOOD, AND
THEIR RELATION TO FEARS AND OBSESSIONS.*

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In the past the term "hysteria" has been with reprehensible looseness applied to almost any excitable nervous state or show of emotion. The depressed and inactive states have been called neurasthenia, while the term "nervous break-down" is still more vague. We have nothing to do with such imprecise classification ; so let it be clear from the beginning that by *hysteria* we shall only mean "those symptoms susceptible of production by suggestion and of removal by suggestion—persuasion." (1) That is to say that hysteria is purely a product of an idea. Its mechanism is a psychological one, and it is to mental agents that we must look in order to influence it.

You may justly ask, then, in what neurasthenia (2) differs from this, and still more cogently the question may be put of psychasthenia. The former, when real, has nothing to do with suggestion, and is not even an affair of the psyche ; it is a mere exhaustion of the nervous system due to bodily conditions, generally toxic or reflex, and its cure is a question of physio-pathology and is a strictly medical problem.

"Psychasthenia" is the term given by the medical psychologist Janet to a mental state which is characterised by (1) a feeling of inadequacy without, however, the real incapacity of the truly fatigued ; (2) a tendency to unreasoning fear or horror of anything or everything ; (3) a sentiment of strangeness or unreality of self or surroundings.

Phobias and obsessions.—These morbid feelings lead to intellectual ruminations, doubts, and besetments, often of so irrational a nature that they cause moral distress. Hence a vicious circle, an unpleasant "feeling-state" causing distressing ideas, which in turn aggravate the unpleasantness of the feelings. For example, it is from a general feeling of anxiety that is derived the notion that one may have

* Presented by invitation before the first congress of the American National Society for the Study of Exceptional Children, New York, April the 21st, 1910 ('Medical Record,' 1910).

placed in the wrong envelopes two letters, or that one may have added wrongly a column of important figures, or that an injustice to someone has been done by us. Although the patient is reasonably sure that the incident has not happened, yet he cannot dismiss the notion, which besets him and works him up to a state of distress sometimes so violent as to be mistaken for an attack of hysteria or even insanity. When the intellectual element predominates, we call this state an obsession; when the emotional factor is most evident it is called a phobia—that is, a morbid fear.

Now, these obsessions and phobias do not arise from suggestion; they arise, it is believed, from a physiological error in the working of the mechanism which determines the emotions. Of its exact nature we are at present ignorant, though many believe that the internal secretions play an important rôle; for we find strictly comparable states resulting from known perturbations of the thyroid and of the adrenal glands, the most important fabricants of internal secretions. Moreover, the remarkable exacerbations of psychasthenic symptoms at puberty, during menstruation, and at the menopause lead us to believe that the generative glands participate in the regulation of psychic functions, very likely by means of internal secretions.

A great many of these patients are labelled hystericals; and, indeed, it sometimes requires an expert to diagnose whether or not a patient's obsession or fear has arisen from a morbid idea or notion, or whether it is not merely the expression of a general emotionalism, and hence quite unamenable to psycho-therapeutics of suggestion or persuasion.(4) By this I do not mean that mental therapy is useless, for it is of the greatest service in teaching the patient to bear his state without the natural undue alarm to which his feelings conduce until their significance is realised. For instance, it is very common for such patients to believe that their feelings are unique, that they presage some terrible physical malady, or that they are the harbingers of insanity. The idea of this does not mitigate their sufferings, but when you enable them to realise their true status, they are generally able to bear their ills. The practical difficulty is that they have usually met so much unconsidered optimism stalking in authoritative guise that they find it difficult at first not to believe that they are being soothed by medical mendacity, so often has this been imposed for what is imagined their welfare in pursuance of the short-sighted policy of an immediate anodyne at all costs.(5)

Very different is the psychological mechanism of the hysterical obsession. It is typified by the following cases: After an attack of

influenza a woman, returning in a crowded car from a shopping expedition, began to feel much oppressed and in want of air. The heart, enfeebled by the influenza poison, and we know not what others taken as medicaments and aliments, ceased to respond to the call upon it for a more rapid flow of blood so that aëration could be sufficient, and a faint ensued with the psychic accompaniments of irresistible terror and dread of dissolution. Never since has this woman been able to bring herself to go alone into a car; the very idea of doing so induces the fear of fainting. She is not obsessed by the idea so long as the question of entering a car does not arise; but although she knows her conduct to be unreasonable, she cannot bring herself to act reasonably about going alone in a car.

Another case (6) is that of a clergyman who once lost his voice from laryngitis while in the pulpit preaching to a large congregation. Although the laryngitis recovered, he continued to lose his voice whenever he attempted to preach from the pulpit before a congregation. He could rehearse his sermons from the same pulpit without difficulty when the church was empty. Nor had he any difficulty with his voice when there was someone on whom he could call to preach for him if he should fail. But on such occasions he never did fail. The ordinary incident of having to preach was the creator of the extraordinary dread of failure which he used to feel.

In both these cases it is a suggested idea which determines an emotion too powerful to permit of rational conduct. Experience shows physicians enlightened in psycho-pathology that the emotions cannot be mitigated until their causal idea is removed (7).

The method of solicitude and sympathy merely reinforces the patient's belief in the validity of the idea for which sympathy is an implicit acquiescence. Still more injurious is direct medical treatment of the apparent physical disorder which results from the idea. For instance, a hysterical monoplegia, *i. e.* a paralysis of one limb induced by the patient's belief that it is disabled, should not be treated by the application of electricity or massage to that limb nor by the giving of an internal remedy which the patient is led to suppose is capable of removing such conditions. It is very bad practice, too, to pretend to perform an operation upon a patient who believes that she is inhabited by a lizard that she has swallowed (8). Sometimes, it is true, a symptom disappears through the suggestion involved in such procedures, but it does so in a small proportion of cases only. It is a pure chance, and does not touch the cause, while by ascertaining and removing the root we can generally cure permanently, as regards the present symptoms, at least.

An illustration of the method of treatment is afforded by one of my cases of traumatic neurosis (9) ; for this condition is merely the expression of an induced fixed idea of a disability, which is recovered from as soon as the pathogenic idea is disposed of.

After bruising his back by a fall from a car a railroad brakeman remained for six months very lame, and the sensibility of the lower limbs appeared to be lost. His tint had become sallow, and he was dyspeptic and emaciated ; he was sleepless, sad, and cried much. The neurological examination reported with the case ('Medical Record,' October the 2nd, 1909) showed that there was no destruction of the nerve elements. The disability was shown by psychoanalysis to be a function of the false fixed idea, induced by the belief derived from his environment that such symptoms as he showed could, and should, follow such injuries as he had had. One sitting sufficed to begin the correction of this false notion, and he himself completed the persuasion and was able to return to work in a month, as I had predicted.

Now, the suggestibility of children is much more labile than that of such cases as I have cited, for, while they are very susceptible to suggestions, they do not usually hold them tenaciously, and are easily diverted from their loosely fixed ideas when morbid. For instance, it is, perhaps, unique for a girl so young as eleven to believe that she is utterly unable to eat, and to do so strongly enough and long enough to overcome the instinct of hunger to such an extent that she had to be removed for treatment to the hospital, where, in the Salle Pinel of the Salpêtrière, Prof. Dejerine built up her emaciated body by generous feeding, and at the same time undid the false notion she had acquired from her elder sister, who had been a patient in the same place.

Now, this form of gastropathy from a false fixed idea is common enough in pubescent girls (10). The origin of the idea is closely associated with the false shame of nubility, which is largely a product of the suggestions of prudery. The medico-sociological import of false shame is now being realised, I am glad to say, by enlightened educators, and it is high time. The obsession not to eat is only one of its numerous forms, but the principle of induction is the same in each, so I need not enlarge.

A much commoner type of hysteria in childhood is the imitative grimace and trick of manner which a child is suggested to do sometimes almost unconsciously. Thus, a choreic child may infect with one or other of his movements half the children in the schoolroom, and in some of the cases these movements may persist for a con-

siderable time, and may even lead a doctor unskilled in neurological signs to believe that a child has the organic disease known as Sydenham's chorea. Nowadays we have a clear understanding of the differentia between a morbid movement arising from a perturbed nervous system and that type of morbid movement which is a function merely of idea (11). The latter we term "psychogenic."

I have chosen two conspicuous types to illustrate the genesis of hysterical ideas in order to illustrate the mechanism strikingly, but far commoner are the eventualities exhibited every day in the nursery and schoolroom. What is more familiar than the constant suggestion to a boy that he should not cry when hurt, and that he should fight with his fists when attacked? That this is not innate is shown by the repugnance of the Teutonic peoples to fistic encounters. Because it was not realised that the distaste for fistic encounters was not a mark of cowardice, but arose purely from a social suggestion of its unseemliness, the Boers, before the war with the British, were supposed to be cowards. A boy having this repugnance to personal encounter might very quickly become obsessed by the fear of its need if sent into an environment where fighting was often required.

We must now pass to consideration of induced morbid fears in children. They are, alas! very common. I need not enlarge upon the familiar fear of the dark too often induced by nursemaids' tales of bogies and ghosts. The fear of the policeman is inconsiderately used by the mothers of the poor who are too lazy, ignorant, or tired to understand or control their children. No morbid effect usually proceeds from these, because the idea is not often implanted with enough insistence or dramatic power, but when the impression is powerful, or when the child is unduly susceptible, a suggestion—fear psychosis—is established with great facility.

It must be remembered that explicit utterance is not essential for the conveyance of ideas, for in the child a vague general notion is quite as effective for producing emotion as is a clear-cut concept. Thus, in Henry James's novel, 'What Maisie Knew,' the whole suggestion conveyed by the governess to her two charges was implicit in her general attitude, for until the end there was not one explicit statement of her fear. Now, the explanation of this is very simple; it depends upon the fact that gesture precedes speech as a vehicle of thought. The infant comprehends the varying attitudes and vocal tones of its mother long before it can distinguish different words, and in most people this channel of information remains an important mode, by which they are influenced, often quite uncon-

sciously. Those of us who have studied the psychology of crowds are well aware of this, as likewise are the observers who compare nation with nation as regards gestural expression. Even adults of the same race, except the more cultivated, are swayed by a comedian much more through his gestures and intonation than by his actual utterance. So with an orator or debater, or, indeed, anyone who tries to persuade us even to purchase something from them, our foolish minds are guided by the stress of an intonation, the cut of the hair, the character of the clothing, the glance of the eye far more than by the arguments used or the words uttered, and with children this is far more so (12).

If I say to a small boy that a bear will eat him up, the effect upon his emotions entirely differs whether I make the remark with portentous gravity and horror, or whether I say it with bubbling joviality, as evidently a huge joke. In the first eventuality, the boy will rush to my side in terror and try to be saved from the bear; and a phobia is in course of construction; with the latter procedure the boy will laugh consumedly, and it would not take much to make him enter the cage and strike the bear. But even when terrified, a child feels a refuge in the protection of his elders during the day when they are rarely absent.

Night-terrors.—At night, however, the child is alone, and his little consciousness cannot find the easy support of others. Before the kaleidoscope of his dreams pass the various images and accompanying emotions of his waking life, so that if any of these images has become linked with fear, it is certain to bring with it terror, as it surges into dream in the night, and the child jumps up, awakened, in panic, finding no one near him upon whom to lean.

It should not be difficult to see that these night-terrors are the product of a suggestion while awake, implicit or explicit. It should not be difficult for those who are forewarned to prevent morbid fears of this type (13). I may cite the case of a Southern lady who could never enter a dark place without feeling an indescribable horror. No hereditary psychopathy could be invoked to explain her dread, for none of her three daughters had the least fear of the dark, and, indeed, they used to be sent by their school fellows into dark and eerie places without experiencing the least trepidation. The difference was that, as children, they were protected by their mother from the tales of the plantation negroes, who knew that dismissal would follow transgression of the prohibition.

The formation of a night-terror was nipped in the bud in the case of my own boy, then aged $3\frac{3}{4}$ years. I shall try to explain the

method. For several weeks he had been visiting the zoological garden every afternoon, in the company of a French maid of exceptionally forceful character, and apparently free from the superstitiousness of the average nurse. For a long time all went well, until one evening the boy began to cry in bed soon after he was left for the night. At this unusual occurrence I mounted the stairs and inquired the cause of the boy's trouble. He said there were lions in the house, and that he did not want to stay alone, as he was afraid they would eat him. The source of the idea had been that the lions had roared more loudly than usual on that particular afternoon, and he had been much impressed, standing for some time quite motionless before the cage, though unterrified. I soon convinced the boy that the lions had to remain in their cages, and could not get out, hence there were none in the house, so that there was no occasion for fear. Of course, it was first necessary to give him the feeling of security gained by embracing me, and, secondly, to begin the conversation by talking of something else—I have forgotten what. In this way the state of terror was dismissed, and the feeling of protection was induced before we returned to the subject of the lions; then we made rather a joke of the funny roaring of the lions before we had finished, and he finally lay down with solemn purpose to go to sleep and think, as I suggested, of the tramcars and motors passing outside his open window. It was all a very simple substitution, but it was the prevention of what might have become a serious fear-psychosis if judiciously handled.

A fertile source of hysterical states, of obsessions and phobias, and of "anxiety neurosis," as he has termed it, is attributed by Freud, of Vienna, to sexual results occurring in early childhood. To the universality with which some of Freud's too ardent followers in America ascribe this cause to every psychoneurotic condition, I desire to invoke a sceptical attitude until such time as the genesis of psychoneurosis in children has been more widely investigated by judicially minded observers who are not wedded to an exclusive theory. It is to paediatrists and psychologically trained educators of the abnormal child that we must perhaps look for a large part of the data needed to decide what are the more common mechanisms concerned.

From the cases I have cited, and their discussion, I hope I have made clear one of the aspects of hysteria, and that you will comprehend the rôle of ideas induced by suggestion as producers of hysterical obsessions and phobias. The thoughtful hearer, too, will deduce from our facts the means of prevention and cure of such

induced suggestion-psychoses as we have discussed. He will further perceive the importance of these psychological mechanisms as factors in the production of many a case of what is believed to be an abnormal child; and a knowledge of the principles we have discussed may enable him to displace that child from one of the categories of abnormality as laid down by Groszmann, Decroley, and others, and to replace what seemed a morbid child among those who are happy and normally useful, so that the little one may cease to be numbered among those who are called "exceptional children."

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SUBCUTANEOUS EMPHYSEMA IN A NEW-BORN INFANT.

By HERBERT WILKINS, L.R.C.S.I.

A PRIMIPARA, aged 33 years, after a prolonged labour in which delivery was effected by axis traction forceps, gave birth to a male child on September the 22nd, 1910. Although the heart was working well, artificial respiration had to be employed for about twenty minutes as the infant at first refused to breathe, and a large quantity of liquor amnii was expressed from the mouth and nose. The following day acute œdema developed over the head, thorax,

and scrotum. The bowels and urine were normal. On September the 26th the child, which had been crying lustily for the last twenty-four hours, suddenly became silent. The œdema was now being rapidly replaced by subcutaneous emphysema over the front and back of the head and thorax. The child could swallow well, but had complete aphonia. The breathing was slightly stridulous. There was no cough. Hot fomentations were applied to the neck, the nostrils and naso-pharynx were sprayed with normal saline, and 3-minim doses of vin. ipecac. were given two-hourly. At midnight the emphysema had increased, and there was considerable dyspnœa. Râles and rhonchi were heard over both lungs, the respirations were 48, and the pulse was feeble. The infant was listless and showed no desire for food. Surgical advice was now considered necessary. Mr. Herbert Waterhouse, however, who saw the case in consultation with Dr. Quiller and myself thought no good could be derived from tracheotomy. Hot fomentations were then applied to the chest and back and 20 minims of brandy were given every hour, together with vin. ipecac. and syrup of tolu and squills. The following day, September the 29th, the child was better generally, and took its food well. The emphysema was less on October the 1st, the child could cry loudly and the emphysema had almost gone. Subsequent recovery was uneventful. The origin of the emphysema in this case is obscure as the child showed no lesion to explain it.

[A somewhat similar case is recorded by Kirchgessner (*Munch. med. Wochenschr.*, 1904, p. 455) in an infant who had been delivered by version after ineffectual attempts to replace the prolapsed cord. The child was deeply asphyxiated at birth but recovered after ten minutes' artificial respiration. Subcutaneous emphysema appeared directly after birth on the left side of the chest, and during the next two days spread over the front and back of the chest and neck. On the sixth day the emphysema gradually receded and on the tenth day had completely disappeared. As in the present case, no damage had been done to the clavicle or ribs. Kirchgessner attributed the condition to an extension *via* the anterior mediastinum from an interstitial emphysema of the lungs produced by intra-uterine expiration during delivery.—ED., BRITISH JOURNAL OF CHILDREN'S DISEASES.]

London and Provincial Societies.

THE ROYAL SOCIETY OF MEDICINE—CLINICAL SECTION.

December the 9th, 1910.

A Case of Infantilism.—Dr. H. E. SYMES THOMPSON showed a woman, aged 34 years, height 3 ft. $2\frac{1}{2}$ in., weight 3 st. Nothing abnormal was noticed until she was between three and four years old, when she ceased to grow. She learnt to write, sew, and knit, but not to read. She was babyish in her ways and fond of dolls. The circumference of the head was $20\frac{1}{2}$ in. The mammæ were undeveloped, and there was no pubic nor axillary hair. Skiagrams showed that the epiphyses of the long bones were not joined to the shafts and that the ossa innominata were incomplete. The case was apparently one of primary infantilism or ateleiosis (Hastings Gilford).

Henoch's Purpura.—Dr. W. ESSEX WYNTER showed two cases. (1) Girl, aged 11 years, admitted on September the 26th. No other illnesses beyond rheumatism at four years. There had been abdominal pain for a week, independent of food, and for four days pain, swelling, and stiffness in the left wrist. Purpuric spots appeared on the leg at the commencement of the illness, and then extended to all the limbs. On admission there was pain in the epigastric and umbilical regions and some general abdominal tenderness. All the organs appeared normal. On September the 27th she vomited, some blood being present in the vomit. On October the 1st and 4th there was considerable intestinal hæmorrhage. On the 15th a fresh crop of purpuric spots appeared on the right foot. On the 28th, four days after getting up, fresh purpuric spots appeared, and the next day there was blood and albumin in the urine (12 grm. per litre). Microscopically blood-corpuscles were seen but no tube-casts. No globulin was present and no œdema.

(2) Boy, aged 13 years, admitted on October the 19th. He had had a similar illness two years before. Five days before admission pains were felt in the legs and purpuric spots appeared. On admission he complained of abdominal pain and there was a purpuric eruption on the legs and feet; the ankles swelled. All the organs were normal. On November the 7th, ten days after getting up, there was a fresh purpuric eruption on the right leg and left elbow. The next day blood and albumin were found in the urine. Corpuscles and blood-casts were seen in the deposit, but no epithelial casts. There was no œdema. Several attacks of vomiting occurred. On the 24th there was intestinal hæmorrhage. The blood-casts showed 19,000 leucocytes; 4,800,000 red cells; 65 per cent. hæmoglobin.

Trunk Lesion of the Fifth and Sixth Cervical Nerves; Keloid Development in Scars.—Mr. L. MCGAVIN showed a boy, aged 6 years, who, as the result of being run over by a cart, acquired a wound of the face and fractured his left clavicle. The wounds were cleaned up and dressed, and the clavicle put into position. There was paralysis of all the nerves of the arm except the ulnar. This was at first attributed to effused blood, but as the condition did not clear up the clavicle was exposed, and its outer end was found to be depressed and producing pressure. The fractured ends were

then wired, and the paralysis was now apparently clearing up. Six months later every scar had become keloid.

Splenectomy for Splenic Anæmia.—Dr. G. A. SUTHERLAND and Mr. F. F. BURGHARD showed two cases: (1) Girl, aged 12 years, whose sister had died at thirteen of splenic anæmia. The spleen measured 8 in. in its longest diameter, the skin was pale yellow and the blood showed typical changes. In spite of three months' medical treatment the condition became worse and splenectomy was performed. Three days after the operation the red cells had increased from 2,500,000 to 4,700,000 and the hæmoglobin from 40 per cent. to 76 per cent. The improvement was maintained and the outward signs of anæmia completely disappeared. At the present time, four years after the operation, she was a well-grown girl of seventeen, and although mitral stenosis was present, in service as a housemaid.

(2) Girl, aged 6 years, with typical signs of splenic anæmia. Epistaxis occurred once, but there was no purpuric tendency. Von Pirquet's test and Wassermann's reaction were negative. After six months' medical treatment splenectomy was performed. The spleen measured 6 in. in its longest diameter, was one pound in weight, and showed no marked changes beyond a general hyperplasia. Four days after the operation the red cells had increased by 2,200,000 and the hæmoglobin by 22 per cent. A month later there was an additional gain of 1,500,000 red cells and 20 per cent. of hæmoglobin.

CLINICAL SOCIETY OF MANCHESTER.

December the 20th, 1910.

Mr. J. HOWSON RAY, *President, in the Chair.*

Affections of the Hip-joint.—Mr. J. HOWSON RAY showed a series of cases, including congenital dislocation of the hip treated by manipulation, and one untreated case of this condition. Cases of coxa vara and coxa valga were also shown, and the gait peculiar to each condition was demonstrated, as well as the main points in the differential diagnosis of congenital dislocation of the hip, of coxa vara and coxa valga, and of certain forms of tuberculous disease of this joint. One case of tuberculous disease of the great trochanter of the femur was exhibited, as well as one of advanced tubercle of the hip-joint where the "wandering acetabulum" was well marked. All the cases of hip-joint affection were accompanied by X-ray photographs in which the condition of the bones and of the joint surfaces in the above cases was confirmatory of the clinical diagnosis.

Complete Cleft Palate and Hare-lip.—Mr. J. HOWSON RAY also showed a child, aged 3 years, on whom he had operated recently. The functional result was very satisfactory, the soft palate moving freely in oral respiration and in phonation, whilst the speech was of fair grade and easily understood.

Mastoid Abscess with Thrombosis of Lateral Sinus and Latent Cerebellar Abscess.—Mr. P. R. WRIGLEY.—When first seen, the patient, a girl, aged 14 years, was delirious, presenting signs of meningitis, and a

history was obtained of discharge of some duration from the left ear followed by cessation a few days ago with appearance of the acute symptoms. Operation was at once performed on December 10th, 1909, when the mastoid was found to be filled with pus and the lateral sinus thrombosed. The antrum was cleared out, the jugular vein divided in the neck, the upper end drained, and the lateral sinus cleared out. This was followed by a rapid recovery, but during the next eight weeks there occurred symptoms of cerebral abscess, viz. headache, vomiting, and optic neuritis, but no localising sign appeared until February the 10th, 1910, exactly two months after the first operation, when paralysis of the left external rectus suddenly developed. The same day the left lobe of the cerebellum was exposed and an abscess cavity containing two ounces of pus discovered. This was drained and recovery rapidly ensued. She was now perfectly well, though there was still very slight paresis of the left external rectus.

Periosteal Sarcoma.—Mr. WRIGLEY also showed a girl, aged 15 years, with a tumour of the left frontal bone of five months' duration. When first seen one month before the growth was the size of a walnut and appeared to spring from the frontal bone just above the middle of the supra-orbital margin, beyond which it had spread a short distance on the roof of the orbit, involving a portion of the third nerve, producing slight ptosis. Operation was declined and was not urged. A month later the growth had almost doubled in size, the skin over it was stretched and appeared about to ulcerate.

Congenital Dislocation of the Hip-joint.—Mr. H. H. RAYNER showed two cases, both in female children, illustrating stages in the treatment by Lorenz's method. One child, with double dislocation, was shown after reduction and the application of the first plaster casing, with the thighs fixed in a position of extreme abduction and rectangular flexion. The other child showed a later stage of treatment, the thigh being fixed in a position of slight flexion and abduction; the patient was able to walk a little with crutches. Skiagrams of the hip-joints before and after reduction and fixation were shown.

Intention Tremor.—Dr. CHRISTOPHER HEYWOOD showed a case in a boy, aged 12 years. The tremor affected the right hand only and had been present for four years. The lad had frequent headaches but no cerebral vomiting, and the optic discs were normal. The case was probably one of functional disease.

Muscular Rigidity.—Dr. HEYWOOD also showed a case in a baby aged 18 months. This child was, according to the history given, born in a state of general rigidity. When first seen by Dr. Heywood at the age of two months the position of the limbs closely resembled that found in tetany. The rigidity had been slowly diminishing, and at present was more marked on the right side; the steady continuance of improvement seemed to justify a hope of nearly, if not quite, complete recovery. The cerebral lesion producing this condition was probably due to pre-natal causes.

BRISTOL MEDICO-CHIRURGICAL SOCIETY.

November the 9th, 1910.

Notes on Six Cases of Posterior Basic Meningitis.—Dr. E. C. WILLIAMS.—All the cases were treated by lumbar puncture, in two cases by lumbar puncture alone, and in four cases by lumbar puncture combined with intra-spinal injections of Ruppel's serum. The two cases treated by lumbar puncture alone both recovered, but one, after suffering from fleeting amaurosis, was an idiot. The percentage of recoveries is about 33, but many recover with some permanent defect. Lumbar puncture was of value both from a diagnostic and therapeutical standpoint. Of the four cases treated by intra-spinal injections of Ruppel's serum in addition to lumbar puncture, three recovered completely and one died. The results of the microscopical examination of the fluid from lumbar puncture must be taken in conjunction with the established clinical signs. In two cases diplococci were found, in one case undoubtedly the *Diplococcus intra-cellularis*; in three cases the fluid was turbid and contained cellular elements, chiefly polymorphs. In the fatal case there was a deposit of purulent lymph at the base of the brain, but in another case where the symptoms were very marked, with opisthotonos, the fluid was quite clear. Whatever the method of treatment adopted, whether lumbar puncture alone to relieve tension and possibly remove toxins, or lumbar puncture combined with injection of a serum, the earliest and most reliable guide as to the efficacy of treatment is the weight; so long as there is an increase in weight, however small, or even if there be a diminution in the loss registered at each weighing, the prognosis is more hopeful. Loss of weight in this disease is far greater than can be accounted for by the vomiting, and is evidence of an increasing toxæmia. The quantity of fluid drawn off at lumbar puncture bears no relation to the severity of the disease. The quantity of serum injected varies from $1\frac{1}{2}$ –5 c.c. The frequency of lumbar puncture must be determined by the special requirements of each case. Several sera are on the market, prepared by Flexner, Jochman, Ruppel, etc. The injection of the serum from convalescents has also been practised. The diplococcus is probably identical with the diplococcus of cerebro-spinal meningitis, is usually Gram-negative, but has been found Gram-positive, as in one of Dr. E. C. Williams's cases. The complete recovery of three cases out of four seems to point to the efficacy of serum treatment.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

November the 11th, 1910.

Partial Paralysis of the Right Shoulder Muscles, including the Serratus Magnus, of some four months' duration.—Dr. F. F. TREVELYAN showed the case in a girl, aged 3 years. A similar paralysis, but not so marked, had recently developed on the other side. Between the onsets of the paralysis in the two arms a slight but definite prominence had been noticed in the lower cervical and upper dorsal regions of the spine.

Acute Intussusception of the Ileo-ileo Colic Variety.—Mr. H. COLLINSON showed a specimen of this. A child aged 2 years was admitted with three days' history of obstruction. The intussusception was irreducible and was resected; Paul's tubes were fixed into the ileum and ascending colon. Eight days later the openings were closed and a lateral anastomosis performed between the ileum and transverse colon. The child recovered.

Acute Pneumonic Tuberculosis of the Left Lung.—Dr. G. W. WATSON showed a specimen from a girl, aged 16 years, who had enjoyed moderately good health up to the onset of her fatal illness. She had complained of no pulmonary symptoms, but was fragile and anæmic. The illness developed acutely with fever, rapid breathing and cough with very little sputum. The physical signs were those of lobar pneumonia. Death occurred on the twelfth day, apparently from cardiac failure. Post-mortem examination revealed marked enlargement and caseation of the bronchial glands. Opening into the commencement of the left bronchus was a small sinus filled with caseous material, communicating with a caseous gland adjacent to the bronchus. The left lung was solid and in a state of reddish grey-hepatisation. There was no old tuberculous focus in either lung, but in both organs there were a few small white areas looking like small aggregations of tubercle. Microscopic examination revealed the tuberculous nature of the acute process.

Interstitial Keratitis.—Mr. A. L. WHITEHEAD showed two cases. (1) Male, aged 15 years, with bilateral interstitial opacity of both corneæ, without iritis, of two months' duration. For six weeks the knee-joints had been swollen, without causing pain or interfering with locomotion. No other evidence of congenital syphilis was present. (2) Female, aged 10 years. Right interstitial opacity of the cornea, without iritis, of three weeks' duration. On examination both knee-joints were found to contain fluid. The duration of this was uncertain, since it had caused no discomfort and was unknown to the patient. With the exception of a slight scar at one angle of the mouth there was no other sign of congenital syphilis.

Philadelphia Pediatric Society.

MEETING, December the 13th, 1910, CHARLES A. FIFE, M.D., President.

Volkmann's Ischæmic Paralysis.—Dr. J. T. RUGH showed a child aged 6 years, who had suffered a fracture of the lower third of the left humerus three and a half years ago. It was dressed on an anterior angular splint, which had to be changed at the end of a week, because of ulceration in the flexure of the elbow, when an internal angular splint was applied. In two days marked ulceration of the flexor surface of the forearm occurred, which required over two months for healing. The fracture united firmly, but flexor contraction of the fingers and hand took place, and the skin of the hand broke down upon the slightest pressure. Six months later Dr. Rugh uncovered the median nerve in front of the elbow for two inches and freed it from adhesions. At this time he had constructed a brace somewhat after the plan suggested by Robert Jones, of Liverpool, but added an arm-piece to the hand portion and a Strohmeyer screw underneath to assist in straightening. This could not be kept on because of the tendency to break

down, and nothing was done until this autumn. In September the splint was systematically applied for half an hour twice daily, increasing up to four hours at the present time. There had been no breaking of the skin, and the hand was almost straight with the forearm. Recovery would occur in this case if the treatment was continued persistently.

Dr. J. K. YOUNG said he was much interested in this subject, having recently at the Academy of Surgery recommended the Jones method of treatment either before or after the operation. Many cases of ischæmia were relieved by extending the fingers first and fixing the wrist, and, after this had been accomplished, extending the wrist upon the arm.

Arthritis Deformans in Children.—Dr. ELEANOR C. JONES reported a case of arthritis deformans, of Still's type, the disease beginning at the age of eight years. Infection appeared to have followed sore throat attended with enlarged cervical glands. The patient was exhibited, very much undersized and undeveloped for her age. Nearly all the joints were affected. None were painful, red, or tender. All the muscles of the back, chest, and shoulders were markedly atrophied, as were those of her arms, hands, and legs. X-ray plates showed the changes to be peri-articular. The spleen was not enlarged; inguinal, epitrochlear and axillary glands were somewhat enlarged. She had had an intermittent temperature from June to November, 1910. Her general condition had been improved by general hygienic and tonic treatment; she had gained nine pounds in the last four months. Tenotomy had been advised for the contractures. Arthritis deformans was rather rare in children. In the form described by Still in 1896 the changes were most marked in the synovial membranes and peri-articular tissues. After discussing the various theories formed to explain this disease, Dr. Jones concluded that the nervous and arthritic phenomena were the end-results of some poison or poisons which had a special action upon these structures.

Dr. YOUNG said that he was much interested in this case. He had recently gone over the subject thoroughly and divided these cases into four groups—traumatic, pathological, pathogenic, and the metabolic or toxic cases. Some of these cases were curable, such as one of his, in which the cause was pseudo-diphtheria bacilli lodged in a discharge from one ear. Recovery followed treating the ear. He has reported another case which recovered, in which the arthritis complicated kidney disease. The bony and articular changes occurred late in the disease, the peri-articular changes occurring earlier. Whenever the cause could be discovered early and removed, these cases could be cured.

Dr. RUGH referred to a case in which the process began at twenty-two months of age. It was neuropathic in type. Treatment did not stop the progress of the disease. He administered tincture of iodine, well diluted, increased up to the point of tolerance in these cases, with good results. In many cases it relieved the joint symptoms better than any other remedy he had tried.

Dr. D. J. MILTON MILLER showed the photograph of a child aged 9 years, with rheumatoid arthritis. The infectious origin appealed to him, since those cases began acutely, with enlarged glands, liver and spleen in the Still type. He believed rheumatoid arthritis, or chronic infectious arthritis (a much better term), was a different disease in children from that seen in adults; at least, only the hypertrophic stage was seen—the atrophic stage was never reached. Children, especially in the Still type, seemed to recover

in spite of Still's poor prognosis. One never saw adult cases that began in childhood, nor had Dr. Miller ever met with one in his reading; hence he concluded that juvenile cases must recover. He had recently seen a case of ten months' standing, in a boy, aged 20 years, following an ankle-joint injury, in which remarkable improvement had occurred. He advised rest during the acute stage, and later, massage, hot baths, electricity and active movements. Especially must the patient be encouraged to move and work the affected limbs himself.

Dr. EMERY MARVEL suggested that the deformity resulting might be prevented by Murphy's method of introducing formalin or turpentine to cause phagocytosis.

Dr. T. A. O'HARA referred to an old woman over sixty, who had had arthritis deformans for years, but seemed to get along fairly well. She fell recently, and since that time all of her joint symptoms have grown much worse.

Dr. J. H. McKEE said that this was the first of Still's type that he had seen. He also referred to an older case of arthritis deformans, who had been kept in fairly good condition by means of X-ray and static electricity.

The Diagnostic Value of a Blood Examination in Pertussis.—Dr. JOHN A. KOLMER, by invitation, read this paper, pointing out the high mortality of pertussis during the first three years of life, and emphasising the necessity of prophylaxis by early diagnosis and isolation. He reported blood examinations in forty-three cases of coughing. Six of these cases were examined late in the course of pertussis. Of the other thirty-seven cases in which a clinical diagnosis could not be made, thirteen were diagnosed positive, and of these, eleven developed clinical symptoms of the disease. Eighteen were given a negative diagnosis, but three of them developed pertussis clinically. Six were held as suspicious, and two of these developed the disease. Of all the cases which turned out to be whooping-cough, 81.25 per cent. had been diagnosed correctly by the blood examination. All were suffering with scarlet fever also, most of them being convalescent. In the presence of other infections which in themselves were apt to disturb the blood-formula, it was better to be guided by the total number of leucocytic elements in a cubic millimetre of blood rather than by the percentages.

Dr. S. S. WOODY said that where many children were kept in one ward any means of promptly discovering whooping-cough was of great value. Dr. Kolmer's work had resulted in a routine blood examination at the Philadelphia Hospital for contagious diseases whenever any child was heard to cough suspiciously, especially in the scarlet fever wards. It facilitated an early decision, and could be of great value when taken in addition to the other symptoms.

Dr. J. CLAXTON GITTINGS said that in hospital practice patients with pertussis were most apt to be admitted for a coincident pneumonia or tubercular infection. The history in these cases was sometimes wilfully withheld, or the desperate condition of the child strongly impressed the resident to the exclusion of a careful anamnesis. The presence of a leucocytosis with an increase of the mononuclear cells was of distinct aid in the diagnosis of such cases. In broncho-pneumonia the increase of leucocytosis was usually of the polynuclear type, while tuberculosis often failed to produce any marked increase in the white cells. While the blood-pictures should not be considered as a final and definite proof of the existence of pertussis, yet it helped to a conclusion in cases which caused real "diagnostic anxiety."

Dr. KOLMER referred to two fatal cases of pneumonia, which complicated pertussis, in which he made the autopsy. Before death the number of leucocytes and small lymphocytes rose in the case of broncho-pneumonia, while the small lymphocytes decreased before death in the child with lobar pneumonia.

Congenital Cystic Degeneration of the Kidney.—Dr. H. BROOKER MILLS reported the case of a child aged 14 months, admitted to the Medico-Chirurgical Hospital with an enormous growth on the left side of the abdomen, which the mother had noticed seven months before. This had greatly increased in size during the seven months. Blood examination showed 4,600,000 red and 17,600 white blood-corpuscles, with 70 per cent. hæmoglobin. The X rays only showed that the growth was not an enlarged spleen. Dr. W. L. Rodman operated upon the baby, removing the growth, which was found to show congenital cystic degeneration of the kidney. The child left the hospital in good condition, but had died since.

Dr. J. STEWART RODMAN said that polycystic disease of the kidney was comparatively rare, only about 300 cases being found in the literature. Only 10 per cent. of these cases were unilateral. The condition existed in two forms, the congenital, and that found in adults past middle life. The entire kidney was involved, sometimes weighing sixteen pounds. The cyst contents varied from a thin watery fluid to a thick grumous, even bloody one. The most probable explanation seemed to be that of Shattuck, who believed that the mesonephron fused with the metanephros, the proper kidney-tissue growing into the Wolffian body, while remnants of the latter became the seat of the cysts scattered through the renal tissue. Polycystic kidneys might occur with other malformations. According to Osler, bilateral tumours in the renal region, hæmaturia, accompanied by such signs of chronic interstitial nephritis as muddy skin, arterio-sclerosis, cardiac hypertrophy, abundant urine of low specific gravity, with abundant albumin and casts, should strongly point to this condition. The only treatment is nephrectomy when the condition is unilateral. Of thirty-five operated on, twenty-five recovered, but few were cured.

Dr. S. C. BURNS said that benign tumours of the kidney were rare; while malignant growths were uncommon, they were more frequently found in children than in adults. Dr. Burns gave the details of Dr. Rodman's operation upon this case.

Dr. BORDEN S. VEEDER added that cystic kidney following inflammatory lesions might be confused with congenital cystic kidney. But the contents found differed, as mucoid and colloid cysts might be found near each other in the congenital form. The unilateral cases with this condition were very rare. He mentioned two cases in which the condition was diagnosed as cysts of the kidney, but in neither was any cyst found.

Typhoid Infection involving only the Gall-bladder.—Dr. WALTER G. ELMER reported the case of a girl, aged 16 years, who developed cholecystitis with a temperature of 103° F. or a little above, with marked daily remissions. The gall-bladder was distended, painful, and very tender, and easily palpable. The patient could not turn on the right side because of the increased pain. The usual clinical symptoms of typhoid fever were absent. At the end of one week the gall-bladder began draining, distention and tenderness disappeared, the temperature fell to normal, and except for a slight rise on the following day remained absolutely normal throughout. The

Widal test was negative just before the gall-bladder drained and positive the next day. Three rose spots appeared on the abdomen the day the temperature fell to normal. Eleven other patients had been infected with typhoid fever from the same milk supply. Apparently the patient resisted the infection except in her gall-bladder, which probably became the seat of a mixed infection by the colon bacillus and typhoid bacilli. The cystic duct was blocked and drainage prevented. There was sufficient systemic reaction to cause rose spots and a positive Widal. The rapid convalescence and absolutely normal temperature would lead one to conclude that there were no sloughing intestinal ulcers or extensive involvement of the mesenteric glands or lymphatic system generally. She was well in a very short time. The case was interesting because of the difficulty in making the diagnosis and the possibility of surgical intervention.

Dr. MARVEL asked whether it could not have been a simple cholecystitis.

Dr. HARRY LOWENBERG asked whether a blood-count had been made.

Dr. ELMER said that the leucocyte count was 7000. This child had had infected milk, and eleven other cases had been due to it. No blood-cultures were made. The patient had never had typhoid fever before this illness.

Société de Pédiatrie, Paris.

November the 15th, 1910 (*Bulletin* No. 8).

Dwarfism of Senile Type.—MM. VARIOT and PIRONNEAU, who showed a remarkable case at the previous meeting, read the notes of two other cases—(1) that of Hutchinson, ‘*Trans. Med.-Chir. Soc.*,’ 1896, and (2) that of Gilford, ‘*Practitioner*,’ 1904. The three cases had a striking resemblance, and Gilford had sought for a new designation to differentiate them from other forms of dwarfism. He proposed first the name “micromegaly,” thinking that changes in the hypophysis, the recognised cause of acromegaly, would be capable of exciting in the same organism both an arrest of development at certain points and an acceleration at others. These disturbances could even attack two segments of the same system, and thus was explained the slenderness of the diaphyses and the enlargement of the epiphyses, which the term “micromegaly” emphasised. Latterly Gilford gave up this name and substituted that of “progeria” (πρόγῆρος, prematurely old). The authors were at variance with the opinion of Gilford on the pathology of this morbid type, for it was difficult to admit that changes in the same gland could in the same organism excite inverse disturbances in the segments of a single limb, and they objected to the term “progeria” as indicating one only of the clinical characteristics of this dystrophy and as not specifying the dwarfism. They proposed the term “dwarfism of senile type” (*nanisme type sénile*), which brought out the two essential characteristics of this morbid condition. In addition to the clinical appearance of senility, it was evident from the autopsy made on Gilford’s case that the lesions observed were markedly similar to those met with in old people, particularly the lesions of the vascular system; on the other hand, the arrest of development resulting from these early lesions of the arterial system could only be specified by the term *dwarfism*. The

explanation of this morbid type must without doubt be sought for in the system of glands with internal secretion, and first of all the hypertrophy of the thymus noticed at the autopsy of Gilford's case attracted attention. There were numerous observations where this change had been associated with marked disturbances of ossification. On the other hand, the histological examination in this single case was too incomplete to enable one to assert that the functional activity of this foetal organ persisted in an abnormal degree. They considered that the question of the thyroid might be eliminated; the acceleration of ossification, the development of the faculties and the condition of the subcutaneous tissue were at variance with the disturbances noticed in hypothyroidism, while the clinical aspect had nothing in common with the dwarfism observed in myxœdema. The hypophysis in Gilford's case, being normal in size and of healthy appearance, could not be taken into account, and the presence of spermatozoa in his case added to the difficulty of admitting a testicular or ovarian influence in subjects of three years of age. The most prominent fact brought out by the autopsy in Gilford's case was the marked atheroma in the heart and aorta: half the anterior flap of the mitral, the posterior rendered incompetent, the base of the aortic valves covered with calcareous excrescences almost completely surrounding the orifice, a calcareous plate of 23 mm. continuous with that of the anterior mitral flap, the coronary orifices of stony hardness, and finally atheromatous patches scattered over the aortic arch as far as the left subclavian, all these profound changes at the root of the arterial system taken in conjunction with the sclerosis noticed in all the organs were more than sufficient to explain the general and precocious senility. They might also explain the dwarfism by the disturbance caused in the vascularisation of the tissues and consequently in their development. In recent years atheroma had been attributed to hyperplasia of the adrenals. The authors had been of opinion owing to the presence of pigmentation in their case that there might be a supra-renal hypoplasia or even an agenesis. The autopsy in Gilford's case, however, showed no macroscopic changes in the suprarenals, but simply a condition analogous to that of sclerosed organs usually found in old people. While further microscopical researches were needed to define exactly the part played by these organs in the causation of these nutritive disturbances, it was more than probable that the cause of this senile type of dwarfism would eventually be found to be of suprarenal origin.

Diffuse Pilary Agenesis.—MM. VARIOT and FERRAND showed a girl, aged 14 years, in whom this condition was marked, especially in the cranial region. The skin of the cranium was almost entirely glabrous, the secretion of sweat markedly reduced, the sebaceous secretion was normal; there was no other congenital malformation. Histological examination of several pieces taken from the parieto-occipital regions showed complete absence of hair or even of lanugo and considerable diminution in the number of sweat-glands, while the sebaceous glands were normally developed.

A Case of Purpura Hæmorrhagica treated by Subcutaneous Injections of Peptone.—MM. NOBÉCOURT and TIXIER reported the case of a boy, aged 9 years, who for a fortnight previous to admission to hospital suffered from rheumatic pains, vomiting, and bloody, offensive stools. The day before he had violent abdominal crises, and on admission a discrete purpuric eruption, frequent bloody stools, and a bad general condition in spite of the absence of fever. There was leucocytosis with polynucleosis

and a slight increase in the number of hæmatoblasts. Chloride of calcium was administered without producing any good effect. Convulsive seizures, probably due to a meningeal hæmorrhage, supervened. This was treated by injections of ether, adrenalin and gelatinised serum. This was followed by a fresh general purpuric eruption and deterioration of the general condition. Subcutaneous injections of 5 per cent. solution of Witte's peptone were now commenced, 3 to 4 c.cm. daily; they were well borne, and produced neither general nor local reaction. The fifth injection, however, was followed by a scarlatiniform rash; the treatment was interrupted for four days and recommenced by giving a daily rectal injection of 10 c.cm. of the solution. After six days the child was practically cured.

Ventricular Hydrocephalus following Meningococcic Cerebro-spinal Meningitis.—MM. P. HARVIER and G. SCHREIBER reported the case of an infant, aged 5 months, with a benign form of cerebro-spinal meningitis cured in ten days by specific serum. Two months later symptoms of hydrocephalus appeared, with increased size of the cranium and commencing optic atrophy. Fluid drawn off by puncture of the lateral ventricle was of normal composition without any cellular reaction or micro-organisms; the fluid from lumbar puncture was identical. Repeated lumbar punctures gave no good result and the infant died six months later. At the autopsy there was no obliteration of the orifices of communication of the lateral ventricles nor of those of the fourth ventricle with the subarachnoid space. The choroid plexuses were enlarged. The lining of the ventricles was thickened so as to suggest a "ventricular ependymitis," but in the absence of histological examination the exact mechanism of the hydrocephalus could not be determined.

An interesting discussion followed, in which MM. COMBY, TRIBOULET, NETTER and others took part.

Adenoid Vegetations and Syphilis.—M. H. ABRAUD reported eighteen cases, on which he based a paper to show—(1) that in a large number of children who were subjects of abnormally large adenoid vegetations either absolutely or relatively to their age a marked syphilitic inheritance was found; (2) that in such children mercurial treatment has a marked beneficial effect on the local as well as on the general condition.

VINCENT DICKINSON.

Abstracts from Current Literature.

Medicine.

Unusual manifestations in cretinism (*Med. Record*, January 1, 1910, p. 7).—L. S. MANSON describes the case of male twins who, during infancy and early childhood, were apparently normal except that they were extremely fat. One at the age of eleven began to suffer from sudden inability to walk, which later developed into a waddling gait and epilepsy, with frequent attacks of both *grand* and *petit mal*. The other seemed normal, except for obesity, until aged fourteen, when he developed a staggering gait. Both were backward at school, and developed baldness associated with undue development of hair elsewhere than the scalp. Corporeal development was retarded except as regards the genitalia, which were hypertrophied. Mentally they corresponded to boys of half their age. No thyroid gland could be felt.

Rapid improvement followed treatment by thyroid extract in large doses up to 45 gr. daily in the case of the ataxic twin, who was more benefitted than his brother. The epilepsy in the other case was distinctly modified.

FREDERICK LANGMEAD.

Hypothyroidism in children (*Jahrb. f. Kinderheilk.*, August, 1910, abst. *Journ. A.M.A.*).—**Stoeltzner** remarks that myxœdema is not often correctly diagnosed in children, a mistaken diagnosis of rickets being generally made. The failure to recognise myxœdema, therefore, may be disastrous. In one case, a boy, aged 6 years, had not grown in the last two years. He seemed otherwise normal, though not particularly bright. Under thyroid treatment he grew nearly 4½ in. in eighteen months. In two other cases the myxœdema developed after severe measles and mumps, with acute thyroiditis in the latter case. The thyroid treatment was not carried out and the child developed pronounced myxœdema, but after two years it spontaneously subsided. In a fourth case the myxœdema developed after a severe fall on the front of the throat, and was promptly cured by thyroid treatment. The writer suggests that pasty children, fat, pale and flabby, may be the subjects of hypothyroidism and require thyroid treatment. Over-feeding of children with this tendency seems to entail lymphatic enlargement.

T. R. WHIPHAM.

Tetany and parathyroid insufficiency (*La Pediatria*, November, 1910, p. 816).—**A. Jovane** and **R. Vaglio** have conducted some extensive researches on this subject, and conclude that while the relation between tetany and hypo-calcification is far from being demonstrated, evident analogies exist between spontaneous tetany and that caused by parathyroid insufficiency. The numerous instances of various changes in the parathyroids of those suffering from tetany show that the theory of parathyroid insufficiency being the cause of spontaneous tetany is well founded. Even in cases where thyroid insufficiency cannot be anatomically proved it is permissible to assume that it nevertheless exists. This is especially the case with children, in whom must be taken into account their state of normal hypo-parathyroidism and the pernicious action that artificial feeding exerts on it.

VINCENT DICKINSON.

Choreal paralyses and supra-renal insufficiency (*La Clin. Infant.*, October, 1910, No. 20, p. 618).—**MM. Emile Sergent** and **Besset** report the case of a boy, aged 11 years, attacked with chorea for about three weeks, and who then developed a condition of general pseudo-paralysis which ended in absolute immobility. A few slight choreic movements of the fingers were the only remaining indications of the primary disease. The child remained motionless in bed, completely apathetic, the limbs flaccid, speech lost, the sphincters relaxed and reflexes abolished. The depression was so marked as to recall the asthenia of supra-renal insufficiency, and the analogy was so striking that the administration of supra-renal extract was tried. The paralytic symptoms disappeared on the re-appearance of the choreic movements and rise of arterial tension.

VINCENT DICKINSON.

Partial giantism (*Allg. Wien. med. Zeit.*, May 3, 1910, p. 199).—**Hinterstoisser** showed a girl with partial giantism. At birth the index and middle fingers of the right hand were much larger than on the left. The right index finger was 14 and the middle finger 18 cm. against 6½ and 7 cm. of the left hand. The right upper extremity was longer and thicker than

the left. The epiphysial ends were still very big and the soft parts were also powerfully developed. There was but slight interference with movement.

M. D. EDER.

Precocious parentage (*Lancet*, II, 1910, p. 1027).—The *Lancet* correspondent in China has sent that journal a photograph of a father aged 8 years and a mother aged 7 years. The mother is shown suckling her baby, which measured one foot long at birth. No details could be obtained as to the development of the generative organs of either parent or as to the mother's menstrual history.

J. D. ROLLESTON.

Orthostatic albuminuria (*Jahrb. f. Kinderheilk.*, April, 1910).—**Götzky** has examined 346 children between the ages of five and thirteen years for albuminuria, and finds that the orthostatic variety is present in 14.5 per cent. Enlarged tonsils or chronic pharyngitis were frequent accompaniments to the condition. No trace of pathological lordosis was present in a large number of the children, and true lordosis was quite frequent among the children free from albuminuria. The writer emphasises the necessity for prophylaxis as the main point in treatment. Chills should be avoided, especially from wetting of the feet. Over-exertion should be guarded against, but games in moderation may be allowed. The albuminuria itself should be left untreated.

T. R. WHIPHAM.

Orthostatic—lordotic—albuminuria (*Arch. f. Kinderheilk.*, LII, No. 4).—**Fischl** deals with the increasing acceptance of the mechanical theory of orthostatic albuminuria—that it is due to lordosis. He states, however, that besides lordosis there must be some predisposition on the part of the kidney or the albuminuria does not follow, and suggests the term "lordotic albuminuria in the predisposed." Treatment should be based on the mechanical theory, and everything avoided that tends to produce lordosis, such as long standing and bending of the spine. A correcting corset may be useful.

T. R. WHIPHAM.

Acute pyelitis in children (*Med. Record*, July 30, 1910, p. 209).—**George B. Philhower** reported at the Medical Society of North Jersey the histories of six cases of acute pyelitis, all females, and five of these six cases had influenza. The diagnosis rested on the microscopical examination of centrifuged urine.

JAMES E. H. SAWYER (Birmingham).

Post-scarlatinal anuria of five days' duration (*Med. Record*, 1910, II, p. 706).—**W. P. Northrup** records a case in a boy, aged $3\frac{1}{2}$ years, the history of whose illness he divides into three periods. First period of twelve days: Severe anginose scarlet fever; 5000 units of antitoxin. No diphtheria bacilli subsequently found. Half an hour after the injection he had a chill and became partially collapsed, and for the next three or four days had a marked urticarial rash. Second period of five days: During this time he passed into absorbent cotton-wool only a few drops of urine—not enough to measure. He had general anasarca and ascites, but no symptoms of uræmia. Third period: He began to pass small quantities of urine rich in albumin, reddish, and containing a large number of granular casts. Complete recovery finally took place. Two other apparently authentic cases have been recorded, one of eight, and the other of twenty-five days' anuria after scarlet fever. The authenticity of the present case is rendered probable by the fact that both the parents were medical graduates.

J. D. ROLLESTON.

Nephritis complicating impetigo (*Cleveland Med. Journ.*, 1910, p. 686).

—**Phillips** calls attention to the occurrence of acute nephritis as a complication of impetigo, which has been observed by several authors, and reports two cases which he regards as examples of this condition. In the first, a boy, aged 3 years, impetigo had been present for eight days before the occurrence of oedema and the signs of acute nephritis. Two days later the child came under observation. His temperature was then 104° F., respiration-rate 40, and there was a leucocytosis of 46,200. The urine was much diminished in quantity and showed blood and casts. Four days later there were pulmonary signs of pneumonia. On the ninth day following the appearance of the nephritis the temperature dropped by crisis and the cutaneous and renal conditions rapidly improved. The second case was in a female infant, aged 14 months, in which diarrhoea and a sore mouth also complicated the impetigo. The urine showed a heavy precipitate of albumin, a few leucocytes, and some hyaline and epithelial cells. The impetigo was cured in three weeks and then the urine rapidly became normal.

REGINALD MILLER.

The clinical varieties of poliomyelitis (*Western Med. Rev.*, August, 1910. *Abst. Journ. A.M.A.*).—**McClanahan** groups cases of poliomyelitis under five heads: spinal, bulbar, meningeal, polyneuritic, and abortive. The ordinary type is the spinal as described by Charcot. In the bulbar type there is an involvement of the nuclear centres in the medulla oblongata. Among the author's forty-five cases four were of this type and all were fatal. One had paralysis of the facial nerve and another paralysis of the motor nerves of the eyes without the face being involved. The meningeal type is characterised by meningeal symptoms, fever, pain, often headache, rigidity of the neck and some unconsciousness, and may easily be mistaken for cerebro-spinal meningitis. In the polyneuritic type of cases there is generally hyperæsthesia, and sometimes intense pain, usually in the legs or back. In the abortive cases all the symptoms of the onset of the disease occur, but there is no paralysis, the patients recovering in a few days. The diagnosis of such cases can only be made in epidemics when other children in the same household have been affected.

T. R. WHIPHAM.

Symptomatology of acute poliomyelitis (*Pediatrics*, August, 1910, p. 542—*Special Poliomyelitis Number*).—**Shidler**, in an analysis of nineteen cases, found that the onset was sudden in twelve cases, the patients being apparently in perfect health the day before. The temperature was high in six cases, moderate in eight; in the remainder it ranged from 99° to 101° F. The fever lasted from one day to seven days, and usually declined by crisis. Stiffness of the neck was marked in all but two cases. General tenderness was present in all but one case. Vomiting was marked only in five cases. Basilar headache was complained of in all the cases. Constipation was the rule; diarrhoea was exceptional. Paralysis usually occurred with the fall of temperature; it varied in intensity, and involved any groups of muscles; paralysis of both legs seemed to be the most common. In about 85 per cent. of the cases the paralysis passed off entirely, sometimes quickly, sometimes gradually; about 10 per cent. made a partial recovery, and 5 per cent. showed no improvement.

J. E. BULLOCK.

Poliomyelitis in Nebraska (*Western Med. Rev.*, 1910, p. 281).—**G. P. Shidler**.—From July to September, 1909, there was an epidemic of poliomyelitis in South-east Nebraska. The variations in the clinical picture

led to open professional differences, in consequence of which charlatans profited considerably. The present paper is based on the study of sixty personal cases: 25 per cent. of the patients were under three, and 10 per cent. were ten years of age; thirty-one were males and twenty-nine females; 31 per cent. occurred as single cases in families with more than one child, and 44 per cent. in families with two or more children, all of whom acquired the disease. In large families where sanitation was disregarded there seemed to be a slight tendency for more of the members to be affected, but most of the patients had clean homes. The worst paralyses occurred in children from eight to twelve years old. Paralysis of both legs was the most frequent localisation. In a large number there was no paralysis, and in another large class only inco-ordination existed. These cases occurred in families where other members had typical paralysis. Nuchal rigidity was the rule even in mild cases. General hyperæsthesia was frequent. In severe cases Kernig's sign was usually found from the second to the fourth day. Among the unusual symptoms noted were strabismus, opisthotonos, formication, numbness, photophobia, sphincter and bulbar paralysis. In mild cases improvement began in a few days, and complete recovery was obtained in three to four weeks. In severe cases there was usually slight improvement, but final atrophy. The mortality was between 7 and 11 per cent. During the epidemic poliomyelitis was mistaken for the following conditions: injury to foot, tonsillitis, typhoid fever, influenza, rheumatism, and diphtheritic paralysis.

J. D. ROLLESTON.

Pain and sensory disturbances in the chronic stage of infantile paralysis (*Med. Press,* August 24, 1910, p. 187).—**Hernaman-Johnson** thinks it probable that in all but the mildest cases of infantile paralysis permanent damage may occur, not only to the motor cells of the anterior cornu, but also to the nerve-elements propagating the impulse of pain and temperature. Cases exhibiting sensory phenomena may be divided into two groups: (1) Those having impaired conduction of efferent impulses; (2) those in which there is actual pain. The first is the more numerous class, and includes those cases in which there is severe paralysis, marked wasting, and coldness. In such there is not only impaired conduction of heat and cold, but also some dulling of the sense of touch. In the second class the pain is not constant, but is brought on by the slightest exertion. The patients are of poor physique, but the paralysis is neither extensive nor severe, and faradic irritability is never wholly lost.

T. R. WHIPHAM.

New sign in infantile meningitis (*La Clin. Infant.,* October, 1910, No. 19, p. 604).—**Brudzinski**, the discoverer of it, calls it the "nuchal sign." It is easy to elicit, and consists in the fact that passive flexion of the neck causes flexion of the lower limbs at the knees and coxo-femoral articulations in drawing up the extremities towards the pelvis. To elicit this sign we proceed thus: The child lying horizontally with the lower extremities extended, the head is taken in the left hand and flexed while the right hand is placed against the infant's chest to prevent him rising. The author has verified this sign in 26 cases of meningitis, and in all these the diagnosis was based not only on the clinical phenomena but also on lumbar puncture, and in some cases by autopsy. In these 26 cases the meningitis was of various origin; tubercular, 11 cases; cerebro-spinal, 6 cases; serous, during various infective disorders, 7 cases; acute meningitis, 1 case; encephalo-myelitis, 1 case. In these 26 cases the author's sign was present in 100 per cent., Babinski's sign

in 42 per cent., and Kernig's in 39 per cent. The researches of Brudzinski show that this nuchal sign may be of great utility in the diagnosis of doubtful cases of meningitis, greater than that of Kernig, for it occurs more frequently and independently of the child's age.

VINCENT DICKINSON.

Cerebro-spinal meningitis in children (*Gaz. Hebd. des Sci. Méd. de Bord.*, July 31, 1910, p. 363).—**Moussous** and **Rocaz** consider the chief diagnostic symptoms are the sudden onset with headache, vomiting, and rigidity of the spine and neck. Kernig's sign, though not pathognomonic, has much value when present bilaterally. The upper limbs are rigid, and Chauffard has described the following sign: When the child is seated and the forearm half flexed on the upper arm extension of the forearm is difficult and painful; this disappears when the child is lying down. Paralysis of muscles are not common, but facial paralysis has been described by several observers. The deep reflexes are as a rule exaggerated. Babinski's reflex is noted in 45 per cent. Headache and generalised hyperæsthesia are the rule. Intelligence is preserved till coma supervenes. Fever is almost constant, but variable and irregular; pulse and respiration are accelerated, and both may become irregular towards the end. Complications are numerous. Endocarditis is not rare, sometimes ulcerative. Hydrocephalus and epilepsy may follow. Eye complications of all kinds, deafness, etc. Lumbar puncture fluid is clear during the first twenty-four hours, then becomes cloudy in most cases. It contains an abnormal number of polymorphonuclear leucocytes. Albumin is always increased and glucose diminished, also sodium chloride is lessened in amount. The cryoscopic point is lowered. The meningococcus may be very difficult to demonstrate, and some writers employ a serum agglutination test instead in doubtful cases.

J. PORTER PARKINSON.

Hysteria in childhood (*Clin. Journ.*, xxxvi, 1910, p. 305).—**Robert Hutchison** does not attempt to define hysteria, but gives a purely objective description based on his own clinical experience. He considers hysteria rare in childhood, and doubts whether it can be recognised with certainty below the age of five years. It is quite as common in boys as in girls until near puberty, when the preponderance is with the female sex. It assumes a simpler form in children than in adults, for there is usually only one hysterical manifestation present. There appear to be two causes: (1) Predisposing, which includes inheritance and the education; (2) exciting, of which the commonest are injury of some sort, and fright. Cases illustrating motor manifestations are given, including hysterical paralysis, astasia-abasia, hysterical fits, contractures of joints, and hysterical tremors. Sensory manifestations are less common than motor in children, but there may be hemi-anæsthesia, anæsthesia of one limb. Hysterical hyperæsthesia is very difficult to be sure of, and cases must be under observation for some time before such a diagnosis can be made. Respiratory manifestations form a large and interesting group, in which are described mutism and aphonia, hysterical cough, hysterical cry, and hysterical dyspnoea, or tachypnoea. Of ocular manifestations blepharospasm is the most common, and usually begins with a slight conjunctivitis or ulceration of the cornea. Hysterical ptosis is sometimes met with, and limitation of the field of vision occurs, but is less constant in hysterical children than in adults. The visceral and mental manifestations are much more difficult to describe, because one gets on the

confines of congenital moral deficiency, or of mere bad temper, and also on the borderland of neurasthenia, and the precise distinction of hysteria from these conditions becomes difficult.

The following points in the diagnosis are laid stress upon: (1) Remember the possibility of the occurrence of hysteria in childhood; (2) hysteria is to be diagnosed with fear and trembling; (3) symptoms and signs which cannot be voluntarily produced or simulated are probably not hysteria; (4) there is often something exaggerated or bizarre in hysterical manifestations; (5) it is suggestive of hysteria when the effect is out of proportion to the cause; (6) inconsistency of the symptoms with themselves is suspicious of hysteria; (7) a sudden onset or disappearance of the symptoms or causeless variations in their intensity is suggestive of hysteria; (8) the maintenance of a good state of the general health.

The prognosis of hysteria in childhood is good as regards immediate cure, certainly better than in adult life, but the difficulty is to prevent relapses.

In the treatment, the first and most essential point is isolation. Wholesale neglect is the best attitude to adopt, and certainly the doctor and nurse must not be over-sympathetic. Taking the patient unawares is often successful, but if it fail subsequent treatment is rendered more difficult. "Suggestion" is of great help, and of other aids the author believes in the old-fashioned treatment by cold shower-baths. Drugs, such as valerian, are perhaps helpful, and in some cases tonics may be necessary, such as iron, arsenic and strychnine. Convalescence must be complete, and the child kept away from home for a considerable time until it has well recovered from the hysterical habit.

JAMES E. H. SAWYER (Birmingham).

Surgery.

Cystoscopic diagnosis of renal tuberculosis in boys (*'Med. Klin.,'* January 9th, 1910).—**Portner** states that cystoscopy in girls, even when infants, is no more difficult than in adults, but that in boys the case is different, owing to the small diameter of the urethra. The presence of renal tuberculosis should be always suspected when frequent micturition, pain in the bladder, and pyuria are present, and inoculation of guinea-pigs should be undertaken in every case of pyuria, especially in children, which does not show a tendency to improve. It is possible to use a small calibre cystoscope on a boy of two years and upwards, and to catheterise the ureter from the age of 8 years. A general anæsthetic is essential, as superficial anæsthesia is inadequate. The bladder reflex continues longer than the corneal, and unless it is abolished the bladder will be intolerant of the fluid introduced, and will expel it, or may bleed. Tuberculosis of the urinary system seems to be more fatal in children than in adults, but this may be due to the fact that we have not learned to diagnose it early enough.

T. R. WHIPHAM.

A case of foreign body calculus (*'Journ. of Amer. Med. Assoc.,'* October 22, 1910, p. 1444).—**Hirsch** saw a girl, aged 5 years, who for seven months had lost control over the bladder and had suffered from pain referred to the vulva at the end of micturition. Rectal examination revealed a movable mass, apparently in the bladder. This was confirmed by the passage of a sound and by a skiagram. No albumin or casts were present in the urine. Through a supra-pubic cystotomy a stone weighing 5.5 grm. was removed. This consisted of calcium phosphate with magnesium phosphate

and calcium oxalate, and contained in the centre a pin. The child made a good recovery.

T. R. WHIPHAM.

Vesical calculus in a child; method of causing spontaneous expulsion (*Giorn. internat. delle Sci. Med.*, 1910, III, p. 125).—**G. Li Virghi** reports the case of a boy, aged 3 years, who had all the typical symptoms of calculus in the bladder. It was surmised that the stone was a small one and that lithotripsy was indicated rather than lithotomy, but the narrowness of the urethral canal rendered this impossible. The urethra was therefore dilated by means of bougies twice a week commencing with N. 8 Ch., followed by an injection of about 80 c.c. of a warm solution of sublimate, 1 in 6000, and massage of the neck of the bladder *per rectum*. After forty-two days of this procedure N. 14 Ch. was reached, and after the injection the stone was expelled as far as the meatus, which was incised to effect its escape. It measured 12 mm. in length, 6 mm. in thickness, weighed $\frac{1}{2}$ gm., and was composed entirely of phosphates. In childhood the causes which prevent the expulsion of calculi are: (1) The fundus of the male bladder in infancy is relatively less developed than in the adult; laterally it is less roomy and presents an over-elongated antero-posterior diameter. In abnormal cases the little-developed posterior parietes present a kind of sac or diverticulum beyond the trigone. If the nucleus of the calculus reaches this fold it tends to become lodged there without the mass of urine being able to remove it. (2) In the infant the prostate is represented by a ring, and is situated in an elevated position so that a foreign body cannot engage the vesical sphincter and pass down the urethra. The causes which prevented the passage of this small stone were: (1) Although the stone was light and small it was oblong, and possibly got across the neck of the bladder. (2) The natural narrowness of the neck of the bladder and the position of the prostatic ring. (3) The vesical contractions in attacks of pain were not expulsive, since the vesical sphincter is involved together with the rest of the muscle and its closure rendered more firm. The spasmodic contractions were therefore powerless to effect the expulsion of a foreign body.

VINCENT DICKINSON.

Cerebral hæmorrhage and operation in the new-born (*Arch. of Pediat.*, 1910, XXVII, p. 361).—**F. T. Murphy** and **J. R. Torbert**.—A first-born child, delivered by breech labour, presented left hemiplegia and a bulging fontanelle on the morning following birth. Intra-cranial hæmorrhage was diagnosed. In the course of the day the child had convulsive movements of the face, and periods of cyanosis and twitching of all the extremities. Lumbar puncture yielded two drachms of almost pure blood. At the operation, performed by Murphy twenty-seven hours after birth, a large horse-shoe flap which included the right parietal bone was turned down on the right side. On opening the dura the blood spurted out to the height of several inches. The whole right hemisphere was irrigated. As there was still much bulging of the brain substance, the anterior fontanelle was opened to the left of the middle line for about an inch, and a considerable quantity of blood was evacuated. The intra-cranial tension then became normal. During the next three days the child had frequent twitching on one or both sides, but was discharged in good health eight days after the operation. Death took place three weeks later from enteritis in a babies' home. The cerebral condition then was apparently normal (*cf. BRITISH JOURNAL OF CHILDREN'S DISEASES*, 1910, p. 288).

J. D. ROLLESTON.

Pathology.

Experimental studies on the thymus gland (*'Arch. f. klin. Chir.,'* vol. XCII, No. 4, abst. *'Journ. A.M.A.'*).—**Nordmann** reports the result of his experiments in the removal of the thymus in a number of puppies. The gland was excised on the third and sixth weeks of life, and none of the animals lived longer than a year. The heart was found enormously dilated, especially on the right side, but there was no hypertrophy, the wall being nearly as thin as paper. The writer considers that the supra-renals are the antagonists of the thymus.

T. R. WHIPHAM.

Thymectomy and its consequences (*'Arch. f. klin. Chir.,'* vol. XCII, No. 4, abst. *'Journ. A.M.A.'*).—**Klose** removed the thymus from puppies ten days old, and concludes from the results that the gland is a vital organ which should never be removed in young children. The symptoms following its removal are the results of an acid intoxication, presumably from nucleinic acid and a deficiency in lime, with resulting changes in the bones and brain. Partial removal of the thymus during its most active phase or complete removal during involution did not seem to cause permanent injury. The writer believes that the spleen is the organ which acts vicariously to the thymus. Treatment with thymus preparations is unable to counteract the effects of thymectomy. More logical is the administration of alkalis to counteract the acid intoxication. Rational surgical treatment is by autoplasmic operations.

T. R. WHIPHAM.

The pathology of rickets (*'La Pediatria,'* September, 1910, No. 9, p. 629).—**R. Vaglio** contributes an original article on this subject. He considers that some of the characteristic changes met with in rachitic bones are undoubtedly irritative in their nature and owe their origin to various toxoinfections; others, which are quite distinct from the ordinary lesions of osteitis, are allied to the condition of constitutional anomaly which Kassowitz in a recent work declares to be pre-rachitic. The origin of this condition is to be sought for in a want of compensation for functional deficiency of glands with an internal secretion, especially of the thyroid, a deficiency which normally exists in the first years of extra-uterine life.

VINCENT DICKINSON.

Infantile paralysis (*'Practitioner,'* August, 1910, p. 231).—**Hernaman-Johnson** discusses the ætiology and pathology of infantile paralysis. He leans towards the view that it is an acute infective fever rather than an intestinal toxæmia, also that the blood-vessels are primarily affected, the motor cells being indirectly damaged, either by the pressure of extravasations, or as a result of malnutrition due to thrombosis of their nutrient arteries. He calls attention to the close parallelism between it and lobar pneumonia; he does not think there is any more call to isolate cases of infantile paralysis than there is to isolate cases of lobar pneumonia, which is occasionally epidemic. In England the epidemic form is rare, though now and then two or more children in one house may be affected at the same time. He does not think there is any fear of special susceptibility being transmitted to the offspring. He suggests the use of the term "lower motor neuron palsy of children" instead of acute anterior poliomyelitis, which commits those who use it to a pathological theory which is not proven.

J. E. BULLOCK.

The causation of infantile paralysis (*Australian Med. Journ.*, 1910, p. 336).—**William MacKenzie** advances the view that this is a disease of the muscles rather than of the spinal cord. This he supports by the following considerations: Firstly, the deep tenderness well known often to be present in recently paralysed limbs. Secondly, the presence of fibrotic changes in affected muscles. Thirdly, by an experiment on a monkey in which the injection of a saline emulsion of paralysed muscles obtained from a child on the third day of illness brought about paralysis of the limb injected after four days. Unfortunately a septic infection occurred at the site of inoculation. The monkey was killed later and its cord was found to be normal. Lastly, the author holds that by treating the disease as a primary muscular inflammation he obtains superior results, particularly in the case of muscles which are not largely tendinous. He advises a more gradual scale of treatment than that of massage, and lays particular stress on the encouragement of voluntary movements. In some old cases he has had good results from the division of the fascia over the affected muscle. He makes no reference to cerebral or cerebellar cases.

REGINALD MILLER.

Experimental poliomyelitis (*New York State Journal of Medicine*, vol. x, p. 330. *Annual Meeting of the Medical Society of the State of New York, January, 1910*).—**Flexner** showed that poliomyelitis is an infectious disease, caused by a minute micro-organism, which, though not seen under the microscope, can be defined and studied as though it were visible. In conjunction with Lewis, in 1909, he inoculated into the brain of monkeys an emulsion of the spinal cord of two children who had died within a few days of the onset of acute anterior poliomyelitis, and by transferring the disease continuously from one monkey to another down to the twelfth generation he has proved that it is due to a living virus. The mode of onset, and the extent, location, and degree of the paralysis vary in monkeys just as in children, but it is much more fatal in monkeys. He shows that the virus is filterable, and suggests that it may become possible to demonstrate it indirectly by means of dark field illumination or by the ultra-violet rays; also the virus is resistant to freezing, slow autolysis in the nervous tissues, or to drying over caustic potash. His experiments extended over too short a time (four months) to decide whether the disease confers immunity. He has found that the nasal mucous membrane contains the virus, and a filtrate prepared from it will transmit the disease. At a joint meeting of the American Pediatric Society and the Orthopaedic Association, held in May, 1910 (*Arch. of Pediat.*, xxvii, 1910, p. 481), he reviewed the relation of experimental epidemic poliomyelitis and its relation to human beings in the light of further investigations.

J. E. BULLOCK.

Pathology of acute poliomyelitis (*Pediatrics*, *Special Poliomyelitis Number*, 1910, p. 511).—**Coulter**.—The conclusions of the Pathology Subcommittee's report on the New York Epidemic of 1907 are summed up by **Flexner** as follows: (1) Acute poliomyelitis is an infectious disease. (2) A similar disease can be produced in man, by inoculation of the human cord into monkeys, either into the cranial subdural space or into the peritoneal cavity. (3) Reinoculation from monkey to monkey apparently may be kept up indefinitely; the subdural inoculation seems to be the surest route of infection. (4) The virus resides in the brain as well as in the cord. (5) The cerebro-spinal fluid of acute cases does not contain the virus in an infective state, at least for monkeys, and the reported bacterial findings in this fluid are either contaminations or secondary invasions. (6) When

paralysis is present the virus lies in the cord and brain, for both of which it has a special affinity, and is probably no longer present in the blood, or at least, not in such a state as to produce infection in the monkey. (7) Histologically, the lesion is very similar to that in human rabies. The manner in which the monkey is infected is identical with the route of infection in the production of experimental rabies. There occurs a type of ascending paralysis in rabies which is clinically identical with that of acute poliomyelitis, and can only be differentiated by animal inoculation of the cord or brain. These facts point to a possible analogy between the infective agents in both conditions and a possible means of immunisation. (8) The virus is probably not bacterial, but possibly protozoan. (9) As the disease is only positively recognisable with the onset of paralysis, attempts at immunisation must be directed towards lessening the spread of the disease in the central nervous system and to offset the toxic action on the ganglion cells as early as possible. On behalf of the Pathological Anatomy Sub-committee, **Strauss** bases his conclusions on the findings of eight cases during the epidemics of 1907 and 1908, as follows: (1) There are changes in both the interstitial and parenchymatous tissues, but the interstitial are primary and of chief importance. (2) The ganglion cells are affected secondarily and when in contact with the inflammatory process around the vessels. (3) The interstitial process is dependent upon its relation to the vessels for its character and localisation. (4) While the lesions are most marked in the anterior horns of the cord, they are not confined to that portion of the grey matter; hence the word "anterior" should not be used to designate the disease. (5) The white matter of the cord is the seat of minor changes. (6) The pia infiltration is an essential element in the pathology. (7) Involvement of the medulla, pons and basal ganglia always occurs in fatal cases, but clinical experience in later epidemics has shown that such involvement does not necessarily mean a fatal prognosis. (8) The ganglion cells in the medulla, pons and basal ganglia generally escape serious morphological alteration, even when they lie near foci of infiltrated tissue. This condition is in striking contrast to what occurs in the spinal cord. (9) The brain cortex may show evidences of vascular irritation and sometimes of cellular infiltration. (10) The oedema which is present in both white and grey matter is an important factor in producing the paralysis, and explains to a large extent the transitory character of the symptoms which survive. (11) The important rôle which has been ascribed to the central artery of the cord by previous observers is unjustifiable, but the central vein has an active part in the production of the lesion, and it is now proven that the other vessels of the cord also transmit the virus and take part in the production of the lesion. (12) There is no evidence of thrombosis. (13) Apparently the infective agent may affect any part of the central nervous system. (14) It is difficult to determine absolutely from a study of the pathological histology whether the infection is of hæmatogenic or lymphogenic origin.

J. E. BULLOCK.

Treatment.

Report of Treatment Sub-Committee on the New York epidemic of poliomyelitis in 1907 (*Pediatrics*, *Special Poliomyelitis Number*, August, 1910, p. 516).—**Coulter**.—At the commencement of the disease the bowels must be opened by calomel or castor oil, followed by Rochelle salts, or if necessary, an enema. Retention of urine must be borne in mind and relieved if it occurs; the diet must be liquid and simple. In case of high temperature

and pain in the head and neck the ice-cap is to be applied. To relieve soreness and reduce temperature the warm bath is recommended; it promotes sleep and relieves much of the rigidity found in the meningeal cases and the soreness of peripheral cases. The temperature of the bath should be maintained at 100° F. for ten to fifteen minutes; should the temperature not be reduced by the bath small doses of antipyretics may be used; for the pain, bromides, phenacetin or antipyrin are recommended. Early in the disease counter-irritation along the spine either by mustard leaf or tincture of iodine is useful. Lumbar puncture is advisable in cases with marked meningeal symptoms. After the subsidence of the acute stage and when paralysis exists care should be taken to avoid bed-sores; the limbs must be kept warm. Deformity in the paralysed limbs must be avoided by careful arrangement of the limbs; should deformity occur in spite of physiological and mechanical means, it must be remedied by surgical procedure. Massage and passive movements may be used early if done carefully and not for too long a time. Electricity must not be used until acute symptoms have subsided; it may be applied to inaugurate voluntary movement; if voluntary movement is possible it is better than electricity.

J. E. BULLOCK.

Congenital syphilis and "606" (*Deut. med. Wochens.*, 1910, p. 1790).—**G. Herxheimer** and **F. Reinke**.—In two cases of congenital syphilis in which intra-muscular injections of "606" had been made two and four days respectively before death no spirochætes were found in any organs except the lungs, and then only in a state of agglutination and degeneration. The destructive action of the drug on spirochætes is thus remarkably demonstrated, since as a rule those organisms are present in enormous quantities in congenital syphilis.

J. D. ROLLESTON.

Treatment of acquired syphilis in a young child with "606" (*Bull. de l'Acad. de Méd.*, 1910, LXIV, p. 142).—**A. Netter**.—A girl, aged 2 years, whose parents had been infected about six months previously, presented hypertrophic vulvar and anal condylomata and numerous mucous tubercles in the mouth. Abundant treponemata were found on examination of the anal lesions. On July 7, 5 mgrm. of biniodide were injected into the buttock, followed two days later by an intra-gluteal injection of 10 cgrm. of "606." Within five days the lesions had almost entirely disappeared. Wassermann's reaction, performed on September 7, was negative. When seen on October 1 the child was in good health.

J. D. ROLLESTON.

Treatment of syphilis with "606" (*Gaz. des Hôp.*, Nov. 15, 1910, p. 1767).—**Prof. Gaucher**, as the result of his experience at the St. Louis Hospital, Paris, comes to the following conclusions: (1) Relapses are common (seven out of thirty cases); (2) some cases are refractory to the drug; (3) other cases heal at the same rate as cases treated by mercury; (4) some lesions heal rapidly, viz. superficial ulcers, mucous patches and benign lesions, which also heal rapidly under mercury; deep-seated lesions are more refractory; (5) some lesions which have resisted mercurial treatment certainly heal under "606," at any rate temporarily; (6) the drug has no action on visceral syphilis, nor on quaternary or parasymphilitic lesions such as lingual leukoplakia, general paralysis or tabes; (7) "606" has little toxicity and is not dangerous, except in the conditions originally contra-indicated by Ehrlich (in children and old people; in debilitated, alcoholic and cancerous subjects; in lesions of the fundus oculi; in organic disease of the

heart, liver, lungs and kidneys; in arteriosclerosis and aneurysm; in affections of the central nervous system). To sum up, Prof. Gaucher, while admitting that "606" is a new weapon against syphilis, regards it as an exceptional remedy, to be used when mercury does not succeed, or when the patient is intolerant of mercury, but, as he truly remarks, such cases are rare.

C. F. MARSHALL.

Reviews.

PARIS MÉDICAL; LA SEMAINE DU CLINICIEN. Directeur: LE PROFESSEUR GILBERT. Paris: J. B. Baillière et fils. France, 12 fr.; Étranger 15 fr.; Le 1^{er} N^o du mois, 50 c.; Les autres N^{os} 20 c.

WE have received the first three issues of this attractive journal. An interesting account is given in the first number by Prof. Gilbert, of the Hôtel Dieu, the second contains an article by Dopter on meningitis in mumps, and the third, a critical essay on erythema nodosum by Lereboullet and Faure-Beaulieu. A special number is to be devoted next December to the medicine and surgery of childhood.

THE TREATMENT OF SYPHILIS BY THE EHRLICH-HATA REMEDY, "606" (DIOXYDIAMINOARSENOBENZOL). A COMPILATION OF THE PUBLISHED OBSERVATIONS. By Dr. JOHANNES BRESLER. Second edition: Translated by Dr. M. D. EDER, with an abstract of the more recent papers. London: Rebman, Limited. Price 2s. 6d. net.

THIS useful little book contains a chronological account of the publications relating to "606." Several interesting cases of its successful use in congenital syphilis have been recorded, but we note that Wechsellmann advises that only children with faultless nutrition should be submitted to this treatment.

The translation has been well carried out by Dr. Eder, with whose scholarship the readers of this journal are familiar.

In the appendix, in which the literature up to and including last October has been summarised, Dr. Eder has wisely given "a fuller abstract of those articles which describe any disasters, or dwell upon points of technique, or present the contra-indications, than of the papers which swell the list of successful results."

LEHRBUCH DER KINDERHEILKUNDE. By PROF. BERNARD BENDIX, Lecturer on Children's Diseases, and Physician to the Charlottenburg Infants' Hospital. Berlin and Vienna: Urban and Schwarzenberg, 1910. Pp. 671. Price M. 15 paper cover; M. 17 bound.

THE sixth edition of Prof. Bendix's book has been thoroughly revised and brought up to date. As a text-book for practitioners and students it is a very useful and reliable work. The opening part is concerned, firstly, with the normal child and its functions, its feeding and its up-bringing, and secondly, with the sick child, its general symptoms and physical signs, and

the principles of dietetics and therapeutics. Then follows an account of the diseases of the new-born and of the various affections of childhood arranged under the different systems, though exception perhaps might be taken at the inclusion of Basedow's disease under the circulatory system. The book is written in a clear, succinct manner without any unnecessary padding, and for the most part contains a wealth of information and detail which renders it exceedingly valuable as a work of reference. As an instance of this we may mention that under the ætiology of endocarditis a list of over twenty diseases and causes are given, but the statement that "in many cases it develops idiopathically" is not likely to be generally accepted. Again, the causes of myocarditis include phosphorus poisoning—a condition seldom met with in children. With these and other instances of the completeness of the information supplied it is somewhat surprising to find that hæmophilia is dismissed in eleven lines, no mention being made of the transmission of the condition through the female line, and that only comparatively short accounts are given of tuberculous peritonitis, bronchiectasis, and Addison's disease. The last three are further relegated to small print, which is otherwise reserved for the less important and less common diseases of children, and for the sections on pathological anatomy, etc. The same remarks apply to the section on diseases of the lymphatic glands, in which we find no mention of lymphadenoma, that disease being briefly described under the heading of "Pseudo-leukæmia." This brings us to the chapter on diseases of the blood, which is a little disappointing and scarcely full enough considering the amount of work that has been done recently in hæmatology. For instance, no mention is made of the actual numbers of leucocytes that may be met with in leukæmia—a point with which every student should be familiar.

The treatment of the various diseases is given in a short and concise form, the reader not being confused by a multiplicity of prescriptions or drugs. In passing we notice that the author recommends thyroïdin in cases of Mongolian idiocy, a form of treatment which is generally of little use except on general grounds.

To each section is appended a bibliography, and frequent references occur in foot-notes. The authors quoted, however, are nearly all German, scarcely any English being referred to. Throughout the text there are numerous illustrations, which are for the most part adequate, though the one of a Mongolian idiot is not very convincing.

Objection must be taken to the association of the name of Bright with chronic parenchymatous nephritis instead of the chronic interstitial variety, and also to the word "measeles."

We have dealt freely with the defects of the book, not so much by way of carping criticism, as in the hope that in a future edition the author may see his way to make some amendments in what is really a very useful work. Many of the chapters are exceedingly good, and special mention may be made of those dealing with the digestive and circulatory systems and of the account of the infectious fevers.

The printing and general get-up of the book is in every way excellent.

Correspondence.

CLEAN MILK.

To the Editor of THE BRITISH JOURNAL OF CHILDREN'S DISEASES.

SIR,—It is recognised on all sides that few matters are of greater importance in promoting the health of the nation than a pure milk supply. Yet, unfortunately, milk is peculiarly susceptible and liable to contamination, not only while it is in the hands of the producer and retailer, but also as soon as it reaches the consumer. For want of due care in handling, milk is frequently, as is well known, a potent factor in the dissemination of a number of serious diseases, and has great influence on infant mortality.

Since the inception of the National League for Physical Education and Improvement in 1905, the question of pure milk has occupied a prominent position in its programme, and a special committee of eminent experts has devoted much time to the problem. The League is now undertaking definite, practical steps to deal effectively with the matter. Pending more adequate legislation than at present exists, it is hoped that this action will arouse the nation at large to a sense of its responsibility in the matter. The intention, briefly stated, is to instil into the minds of all concerned in the production and consumption of milk a knowledge of the simple rules required to ensure its purity and cleanliness.

Full details of the scheme and of the standard leaflets on which it is based will gladly be sent on application to the Secretary of the League, at 4, Tavistock Square, London, W.C.

We are, etc.,

For the National League for Physical Education and Improvement,

(Signed) W. B. RIPON, *Chairman of the Executive Council.*

F. MAURICE, Maj-Gen., *Hon. Vice-Chairman.*

LAUDER BRUNTON, *Vice-Chairman.*

JOHN TWEEDY, *Vice-Chairman.*

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MARY SCHARLIEB.

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EDWARD E. HAYWARD.

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T. H. HENDLEY.

MARY A. WARD.

A. HOARE.

J. E. WALKER.

T. HENRY HOWARD.

A. T. WAUGH.

Members of the Executive Council.

4, Tavistock Square,
London, W.C.

January the 10th, 1911.